

**Essays on the practice of midwifery, in natural and difficult labours / by William Osborn, M. D.**

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**Publication/Creation**

London : Printed for Cadell, in the Strand; and Johnson, in St. Paul's Church-Yard, 1792.

**Persistent URL**

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ESSAYS

ON THE

PRACTICE OF MIDWIFERY.

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ESSAYS

ON THE

PRACTICE OF MIDWIFERY

ESSAYS

NATURAL AND DIFFICULT

LABOUR

PRACTICE OF MIDWIFERY

BY WILLIAM OSBORN, M.D.



PRINTED FOR CROFT, IN THE STRAND, AND JOHNSON, IN ST. PAUL'S CHURCH-YARD

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IN  
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ESSAYS

OF THE

PRACTICE OF MIDWIFERY,

NATURAL AND DIFFICULT

LABOURS.

BY WILLIAM OSBORNE, M.D.

AND

OF THE

PRACTICE OF MIDWIFERY.

IN TWO VOLUMES.

## PREFACE.

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IT is my intention, in the following Essays,

First, to demonstrate the inevitable and physical necessity of the tediousness, the difficulty, and the dangers of human parturition, as dependant on the peculiar form and position of our body; and then to endeavour to obviate some objections, deduced from a mistaken analogy of the same operation in other animals, and speciously applied to depreciate both the science and the practice of Midwifery.

Secondly, to describe natural labour, and to point out the means



which nature employs to obviate the inconveniences necessarily resulting from that peculiar structure of the human frame, as stated in the preceding Essay, and afterwards to show those deviations which constitute laborious or difficult labours.

Thirdly, to consider laborious or difficult labours under the several degrees or varieties in which they are usually found; beginning with those which, however tedious, are to be ultimately and safely accomplished by the powers of nature only.

Fourthly, that greater degree of difficulty which requires and admits of such instrumental assistance as, while it relieves the mother, is compatible with the safety



of the child. In the examination of this part of the subject, one principal object is, to make a comparative estimate of the merit of the forceps and the vectis; and, in the prosecution of the inquiry, to endeavour to demonstrate, both upon principle and from experience, a decided preference of the forceps. Before I proceed further, it may not be either improper or impertinent to point out the reasons why I consider myself personally called upon, at this time, to make this comparative inquiry, and how, and why, I feel myself particularly interested in the discussion, and bound to give an explicit and decided opinion on the subject.

It is very generally known, that



Dr. Denman and myself publicly taught Midwifery together, in this city, for many years; and although we were not pledged to support the same opinion on any subject, yet it would have been preposterous to read lectures together in the same school, if we had not agreed in the great and fundamental principles of practice; and in no one principle (I always thought) did our opinions more exactly correspond, than in preferring the forceps to the vectis, in every case of difficulty which might actually require either the one or the other of those instruments. Our opinion was founded partly on theory, but confirmed by several instances of extreme injury done



by the vectis, in the hands of able and experienced men, who were likewise much in the habit of using that instrument. I was therefore both astonished, and mortified, at reading my old friend and colleague's account of the vectis, particularly where he expresses his decided opinion in the following unequivocal manner, " That  
" the vectis, prudently used, is in  
" every case an equally safe and  
" efficacious instrument with the  
" forceps, and a better adapted instrument in many cases which  
" occur in practice."\* I was astonished, because this declaration was a direct dereliction of the opinions which he formerly held, of the doctrine which he always

\* See Essay on Difficult Labours, Part II.



taught, and the practice which he had followed, for thirty years. I was mortified, because, unless I disavowed them, I knew I should be implicated in the opinions by all those practitioners who had formerly been instructed by us together, or who knew of our connection in lectures: but I was the more particularly mortified, because, as far as the influence of Dr. Denman's authority extended, and the reputation which he has deservedly acquired, as a practitioner, an author, and a teacher, would render that influence both considerable and extensive; it would tend to establish the preference of the vectis, and promote the general (and I think) mischievous use of that instrument espe-



cially among women in the more humble situations, or even in the middle ranks of life. The vectis is an instrument which may be so easily and so secretly applied, the temptation to its unnecessary use among patients of the above description so great and so frequent, by shortening the duration of the labour to the patient, and of the attendance to the practitioner, and its application may be so injurious, and is often so dangerous, that I feel myself especially called upon to oppose its introduction into general use, to point out its inconveniences, and to guard against its dangers; and in cases therefore of such difficulty as indispensably to require the use of instruments, to demon-



strate, upon principle, the decided preference of the forceps in efficacy and safety, both to mother and child.

To support this practical opinion, I hold to be of some importance even to the public, not as it relates to myself, for the practice of any individual can be comparatively of little consequence, in cases which occur so seldom as really to require the use of instruments; but as more than twelve hundred of the present practitioners of Midwifery in this kingdom have done me the honour of attending my lectures, I trust, (considering the effect the teacher's opinion will probably have on the scholar) that it will appear to my readers to be of some



consequence even to the public, that the doctrine which is to influence the conduct, if not actually to direct the practice, of so many professional men, on an important and interesting subject, should at least be irrefragably established. Although I am myself convinced that both principle and practice are well founded, I yet feel it my indispensable duty to my pupils and the public, to submit both to the test of argument, or to a candid discussion; that, if right, they may be unalterably fixed; if wrong, that they may be effectually and speedily corrected.

The Fifth Essay is chiefly a republication of an Essay on Laborious Parturition, printed some



years ago, in which is meant to be considered that degree of difficulty, which, depending on the distorted form, and diminished capacity, of the pelvis, is incompatible with the safety of both mother and child. In this case, the life of the child must of necessity be sacrificed to the preservation of the mother, or the mother herself, for the certain safety of her child, must be doomed to *inevitable destruction by the Caesarean operation*; or, for a precarious chance, and slight probability of safety to her child, she must at least be exposed to the *pain and danger of the division of the symphysis pubis*. This last operation having been invented, and performed at Paris, by Mons. Si-



gault, with an intention to supersede the necessity of the Cæsarean section, and infallibly to preserve both parent and child; and having much engaged the attention, and divided the opinions, of medical men throughout the Continent; one chief purpose of this Essay is candidly to review that subject, and particularly to inquire how far it has answered the sanguine expectation of its first friends, and *how far experience has corresponded with theory*, by collecting the history and events of all the cases in which it has been performed, and presenting them to my readers, as the only satisfactory evidence which can determine the real merit of this or any other invention.



I shall previously describe and ascertain those dimensions of the pelvis, which absolutely, and in all cases, require, to accomplish delivery, such violence as is inconsistent with the common safety both of mother and child. I shall next, by comparing the value of the two lives, placed by lamentable necessity in competition, endeavour to prove, that our usual practice of opening the child's head, and thereby lessening its volume, so as to permit it to be extracted with the crotchet, instead of deserving those opprobrious and injurious terms so unjustly applied to it by many foreign professors, and some authors of this country, is infinitely preferable to any operation which



must at least expose the mother to extreme danger, if not inevitable destruction.

I shall lastly endeavour to show, and confirm by several cases, that a child at full maturity, and of the ordinary size, may, with its head opened, be extracted by a crotchet, with perfect safety to the mother, through a much smaller, and more distorted pelvis, than has hitherto been supposed capable of admitting such delivery; the pelvis, in one of the cases alluded to, being considerably smaller, than where the Cæsa-rean operation is invariably advised, and has been very often performed; and infinitely smaller, than where the division of the symphysis is even recommended:



and thus I hope to supersede the necessity of one operation, and equally prevent the performance of the other.

In the second part of this Essay, where I give an historical detail of the division of the symphysis pubis, and the event of the cases in which it has been performed, I have been obliged to make such frequent and long quotations, as perhaps, in the opinion of some readers, may require an apology (while probably the greater number, with myself, will think them the best and most important part of this Essay); but the apology may be deemed more necessary, as I have departed from the usual manner of throwing the quotations, in the form of notes, to the



bottom of the page, and have introduced them into the body of the work. I beg leave, however, to observe, on this occasion, that the books from which I have taken my accounts are not very common, and the passages quoted are in general either curious, or important in matter, or expression. It may be likewise necessary to state, that as the books are all in Latin or French, languages universally understood, and indeed familiar to the medical reader (for whom alone this work is intended), I have preferred the very words of the author, rather than a translation, as precluding all misrepresentation or perversion, and even the possibility of mistake. By interweaving the



quotation into the body of the work, the narration continues undisturbed, and the confusion and interruption of frequent and repeated references are entirely obviated.

It is impossible to enter upon the consideration of the subject of this Essay, without feeling and lamenting the calamitous condition of the Sex, who at all times of parturition are exposed to the severest bodily pain, but who, in this case of extreme deformity, are inevitably reduced to the cruellest alternative that imagination can conceive; an alternative the more deplorable, as woman is the only created being who is subject to it; the misery of which is not produced

by human vice, nor can it be prevented by human prudence. While the humblest of the sex, therefore, have the strongest and most complicated claim upon our benevolence and skill, the general welfare of society calls for our best exertions to lessen this undeserved affliction, by banishing from practice that unwarrantable, because most fatal operation, the Cæsarean section, and by preventing the introduction of its substitute, the division of the symphysis pubis, as equally unnecessary, though certainly less dangerous.



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ESSAYS  
ON THE  
PRACTICE OF MIDWIFERY,  
IN  
NATURAL AND DIFFICULT LABOURS.

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ESSAY I.

*On the Difference between HUMAN and  
COMPARATIVE PARTURITION, and on  
the Importance of MIDWIFERY.*

THOUGH the art and science of midwifery have been more cultivated throughout Europe, since the commencement of the present century, than during any former period, yet our progress has hitherto by no means kept pace with the importance of the subject, or our advances in other branches of the practice of physic. This, I believe, may be accounted for in the



following manner. Many sensible and well-informed persons, even philosophers and physicians,\* observing with what facility, and almost total exemption from danger, all other animals in a state of nature bring forth their young, have presumed, from analogy, that human parturition, being exactly the same operation, would, if conducted by nature alone, be accomplished with equal facility and safety. From this opinion, which, for want of observation and reflection, is founded on a superficial and imperfect knowledge of the subject, they have hastily drawn conclusions, false in point of fact, and not only unfavourable to the art of midwifery, but highly injurious to the interests of humanity; be-

\* “ Every other animal brings forth its young without any assistance; but we think a midwife understands it better,” &c.

*See Dr. Gregory's Comparative View of the State and Faculties of Man, p. 22.*



cause as far as the influence of such opinions extends, it has a direct tendency to prevent or obstruct all further improvements in this profession, as both unnecessary and useless.\*

To point out the fallacy of these opinions, and to obviate their influence, by demonstrating the cause of the inevitable but superior difficulty and danger of human parturition, and thus to rescue the art of midwifery from the charge of inutility, and to restore it to the importance which it merits, as a branch of the general prac-

\* “ *Artem obstetriceam, futilem, inanem, imoque ut*  
*“ exitiosam habent viri cætera eruditissimi, qui ea om-*  
*“ nia scepticé negant quorum commoda ipsissimis oculis*  
*“ non perspexerunt;”* as Mons. Roussel de Vauzesme observes even in France, where midwifery has been more attended to than in any other country of Europe; where it is, in general, better understood, and in higher estimation.

*De Sectione Symphyseos Ossium Pubis admit-*  
*tenda. Auctore August. Roussel de Vau-*  
*zesme, Lutetiæ. Paris. 1778.*



tice of physic, are the particular objects of this Essay.

That all other animals in a state of nature, bring forth their young with greater ease, and safety, than women, however assisted by art, is a fact incontrovertibly established by general observation. If it cannot, therefore, be shewn, that this circumstance arises from an essential difference between the structure and position of the human body, and those of quadrupeds, and that human parturition, under the most favourable concurrence of circumstances, must, of necessity, be more tedious, difficult, and painful, and, in some cases, infinitely more dangerous, than the same operation in any other animal; the professor of midwifery ought undoubtedly to acquiesce in the opinion referred to in the quotation above, which considers his art as “useless, trifling, and perhaps sometimes hurtful.”



But should it, on the other hand, admit of demonstration, that there is such a powerful and permanent cause, inseparably connected with, or rather dependent upon, the most perfect form and structure of the human body, which clogs even natural parturition with many impediments: and if it can be further shewn, that there is a disease peculiar to the human species, which lays the foundation of great and innumerable difficulties and dangers in parturition, which are unknown in the quadruped, but which our art is capable always of lessening, and often of removing; then the opinions, and conclusions which I have mentioned above, will appear to be falsely or superficially formed, and the charge of inutility must be rejected, as ill-founded and unjust.

If midwifery professed to superintend only the act of parturition, to co-operate with nature, and to assist her when ne-



cessary; it is evident that the art would be extremely beneficial to mankind: but midwifery, in its most extensive meaning, comprehends the medical direction and treatment of women, from the beginning of the pregnant, to the conclusion of the puerperal state, as well as the superintendence of the act of child-bearing. If we therefore take into consideration, the variety of painful, dangerous, and complicated situations and diseases in which it affords relief; and if we estimate, as we ought, the high and peculiar importance of the subjects of this art, from their acknowledged consequence to the happiness of mankind, and even to the existence of the world; we may surely venture to assert, that midwifery ought to be considered, not as a subordinate, but as one of the most important parts of the practice of physic.

As the first intention of this Essay is to demonstrate an essential difference be-



tween human parturition, and the same operation in every other female; it will be necessary to describe, in what that difference consists; and then to shew by what means it happens, that painful, difficult, dangerous, and even sometimes fatal parturition, should be the unhappy lot of woman only, while all other creatures are in a great measure, if not altogether exempt, from every untoward circumstance, which either accompanies or follows the act, and which constitutes the misery of child-bearing.

If we admit, according to the Mosaic account of the creation of the world, that human parturition was distinguished by the severity of its pains, by its difficulty, and dangers, from the same operation in other animals, as a curse annexed to the fallen nature of man; and that “in sorrow thou shalt bring forth children,” was announced to our first parent as a punishment, which, we are taught, it



was the intention of the Deity should continue to afflict human nature as long as the world endured, it will serve to illustrate one principal subject of this Essay, may likewise gratify philosophical curiosity, and at least have a beneficial tendency,\* if not be a matter of much practical utility, to inquire, by what peculiarity in the human physiology, this great natural evil has been so completely effected, and must continue to be so inevitably annexed to the female body.

We are repeatedly told, from the same high authority, that “God made man in his “own image,” and “after his own likeness;”—expressions which, if we cannot allow to be at all referrible to external shape, yet, as the God of nature has been pleased, in his wisdom and goodness, to give to the human species, a form

\* “Ista quoque naturæ rerum contemplatio, quamvis  
“non faciat medicum, aptiorem tamen medicinæ red-  
“dit.”——*Cels. lib. i. Præf. p. 14.*



and position of body, differing from those of all other animals, such form and position must be understood, to convey the most unequivocal mark of distinction, and pre-eminence, over all other orders of terrestrial beings; and this striking and characteristic peculiarity, this “*erectus ad sidera vultus*,” ought of course to be regarded as a transcendent benefit or blessing, granted only to human creatures. Notwithstanding which, such is the divine intention in the economy of this world, such the imperfect state of every sublunary good, that we uniformly observe certain inconveniencies, do necessarily result from, or are inseparably attached to, every great advantage, or every acknowledged excellence. Thus, the erect position of the human frame, that singular mark of pre-eminence, exposes woman to pain and difficulty in natural parturition, from which the subordinate quadruped is almost entirely



exempted, by the horizontal position of her body. The peculiar advantages of positions so different from each other, can no more exist in the same creature, than the strength of the draft horse, and the fleetness of the racer, can be united in the same animal; for as these depend on qualities incompatible with each other, and which cannot therefore exist together in the same subject, so those depend on circumstances of structure, or physical laws equally incompatible, and utterly inconsistent.

To understand how the erect position of the human body necessarily operates, in making natural labour in women more painful, tedious, and difficult, than in the quadruped, it is sufficient to observe, that, in such a situation, there is the general and powerful influence of gravity constantly to be counteracted, in a certain degree, during the whole period, but in a much greater, towards the conclusion of



utero-gestation: for as gestation advances, the ability in the soft parts to support the weight of the contents of the uterus, and to resist the influence of gravity, regularly decreases; and thus, if not prevented, premature labour would be very general, if not the inevitable consequence.

Completely to guard against this accident, which is of the last importance to the existence of mankind, nature has taken peculiar pains, and attended to a variety of circumstances, in the structure of the bodies both of mother and child, which, while they effectually answer the purpose intended, unavoidably create those very obstacles which delay and impede delivery. The most material of these circumstances it may be proper to describe.

First, then, that irregularly cylindrical cavity in the skeleton, called the pelvis, through which the foetus in all animals



must pass at birth, is so placed in the human body, that its axis is very different from the axis of the trunk, and of course not perpendicular to the horizon; any thing, therefore, passing through it, cannot be within the immediate influence of gravity; at the same time, the axis of the pelvis is very different from, if not directly opposite to the axis, both of the vagina and os externum, through which the foetus must ultimately pass.

Secondly. Upon the same principle, and with the same view, nature has been obliged to vary, nicely and minutely, both the form and capacity of the pelvis, making it wide in one part, narrow in another, concave and deep behind, straight and shallow before, and with sides that converge to a considerable degree.

Thirdly. The upper and lower aperture of the pelvis do not at all correspond in shape, and have directly opposite dia-



meters. The superior aperture, or brim of the pelvis, where the child enters, is oblong, with the longest diameter extending from side to side. The inferior aperture, through which the child is to pass out, is so irregular, as hardly to admit of a comparison, or illustration, from any known form, but is certainly (at the time the child's head passes out) shorter from one side to the other, than from the fore to the hind part; and that, nearly in the same proportion as it was longer above: thus, as just mentioned, the two apertures have directly opposite diameters.

Fourthly. Pursuing the same intention, nature has made the shape and volume of the child's head such, compared with the upper aperture of the pelvis, that it cannot enter by its own weight, but, resting upon the brim, requires to be squeezed into it by the powerful and repeated contractions of the uterus and



abdominal muscles, and even then, it must take a particular form, and be thrown into a particular direction; that in the passage, both the form and direction necessarily undergo a material change, from compression, in order that the shape of the head may be all through adapted to the cavity of the pelvis; and thus it must consequently come out with an altered form, and in a different direction.

Lastly. To add to the more effectual support of the gravid uterus during gestation, all the soft parts concerned in labour, are of a firm and rigid texture, dilating at all times with considerable, but the first time with extreme difficulty, to such a degree, as to permit the passage of the child through them without laceration, or other injury. It is obvious that a passage so intricate, and under circumstances so complicated, must render the act of child-bearing, slow, difficult, and painful.



Let us now consider the peculiarities of the quadruped, and the operation of those peculiarities on parturition.

By the horizontal position of the body of the quadruped, the parietes of the abdomen support the gravid uterus during gestation, in whatever situation the animal may be; the parts concerned in labour, cannot therefore at any time be exposed to the general influence of gravity; on which account, nature was not required to observe such strict laws, or to guard against such minute deviations, respecting either the position, or capacity of the pelvis, the volume, or form of the head of the foetus, the situation, or structure, of the soft parts. Therefore, in all quadrupeds, the same, or very nearly the same axis, is given to the trunk, the pelvis, the vagina, and the os externum. Nature has likewise made the head of the foetus proportionably small, compared with the capacity of the



pelvis, so that it may readily pass through in any direction; and the soft parts, having nothing to support, are of a loose texture, easily yielding to the first pressure of the membranes, or foetus, and of course affording little resistance, and no impediment to delivery.

This difference in the structure of the soft parts, likewise satisfactorily explains, why the laceration of the perinœum, which, from inattention, or ignorance of the person attending, is no uncommon accident in human parturition, should never happen to quadrupeds; a circumstance which has been considered by some as a strong proof of the superiority of the powers of unassisted nature, over all the care and exertions of art.

By this sketch of human and comparative parturition, it is evident, why the same operation, under the most favourable circumstances, must in women be attended with much more pain, difficulty,



and delay, than in any other creature. It remains now to be explained, why laborious parturition never did, or can occur to the quadruped, in any degree to be compared with the same operation of the human body.

It is well known, that the great and genuine cause of the most difficult and laborious births, is the deformity of the pelvis, or the disproportion of its cavity to the volume of the child's head, and that this deformity is caused by a disease peculiar to the human species, called in infancy the Rachitis, and in the adult state the Mollities Ossium; in both which cases, there is such a deficiency of earthy matter in the skeleton, as to render the bones insufficient to support the weight of the body, and even sometimes, the action of the muscles. In the infantile disease, the secretion and lodgment of the earthy matter having never been effected, the formation of the bones is incomplete;



in the adult state, although the process has been accomplished, and the skeleton been perfectly formed, yet if from any cause a due balance is not preserved between the deposition and absorption of this matter; if the arteries fail to deposit their usual quantity, or, which in effect is the same, the absorbents take up more than they ought, in either case the bones lose their firmness and stability; and then if the disease be general, to which there may be some, but I believe very few exceptions, those bones must suffer most, and first, which support the greatest weight, or are most exposed to muscular action. Now the part of the human skeleton, or single bone,\* which sustains the

\* I say single bone, because the whole pelvis is engaged in the support of the trunk; and my friend, Dr. Denman, has very ingeniously described it as a double arch, admirably contrived by nature to support the superincumbent weight, and to give peculiar strength to the human frame.—See *Introduction to the Practice of Midwifery*, p. 29.



greatest weight, is the basis of the os sacrum, at its union with the last lumbar vertebra ; for whether the body be walking, standing, or sitting, this part forms the base of the column, and must first give way, if the superincumbent weight and pressure be too great for the column to sustain. This assertion is fully confirmed by anatomical observation. For, infinitely the greater proportion of deformed pelvises are found, if not only, always most contracted at this part; an incontestible proof that it first gives way, or is most under the influence of this disease, and when once affected, is with greater difficulty, perhaps never, restored to its pristine state.

The Rachitis, or Mollities Ossium, so far as my observation extends, is a disease peculiar to the human body, to which quadrupeds, under no circumstances, are ever subject ; however, if they were, as from the horizontal position of their bo-



dies, the pelvis sustains little or no weight, so it is a part of their skeleton, which cannot be at all exposed to the influence of this disease. Hence, as there is no such thing as a deformed pelvis among quadrupeds, so none of those difficulties or dangers can happen to them, which, depending on deformity, constitute laborious parturition, to a great variety of degrees, in the human species.

From this description, it must be obvious to every reader that, unless in the end or effect, scarcely any analogy can with propriety be said to exist in an operation so widely differing as human and comparative parturition does, in many of the most essential circumstances. The opinions, therefore, which have been hastily adopted, and the conclusions which have been ignorantly or inconsiderately drawn from this supposed analogy, and which were evidently intended to depreciate the art of midwifery, must



appear to be altogether unfounded and unwarrantable.

I cannot here refrain from observing, what may perhaps appear too obvious to require notice; that as the rickets is a disease very common in infancy, so the pelvis is very early, and frequently deformed; and, for the reasons stated above, long before the spine, or any other part of the skeleton, is really, or apparently affected. And further, I believe, that when once the pelvis is much deranged, it is very rarely, and with great difficulty, again restored to its perfect form, and size; which opinion is confirmed by frequent observation of women, who are both tall in stature, and well formed in the spine, and yet have the pelvis much contracted at its upper aperture. As it is of the first consequence, so it requires our earliest and best endeavours, in female children, to check the progress of this disease, before the deformity be con-



siderable, and long before it arrives at such a degree as to threaten those difficulties in delivery which are to be considered in the following Essays.

To discriminate with precision the various degrees of deformity and disproportion, and consequently of difficulty, in laborious parturition; to determine how long in such cases we may safely, and how long we ought patiently, to confide in the powers of nature; and, lastly, upon the failure of those powers, to know what are the means of art best adapted to give relief in each degree of difficulty, and how to apply them with certain safety to the life both of mother and child, where the circumstances of the case admit; but with an invariable preference to the mother, where the safety of both is incompatible, constitute the most important branch of the practice of midwifery: for the actual preservation of the child's life, and the safety,



health, and future comfort of the mother, entirely depend, in such cases, on the science of midwifery, and on the skill and attention of the practitioner, and the proper and timely application of his art; his professional knowledge and conduct, therefore, must be most intimately connected with the interests of humanity, and must be very important to the general welfare of society. To publish the result of his experience, and thereby contribute, as much as in him lies, towards such desirable objects, as the actual preservation of the child's life, and the safety, health, and future comfort of the mother, is a duty which every professional man owes to the community where he has been engaged in practice, and where he has of course acquired his knowledge, and been liberally rewarded with the emoluments of his profession.



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## ESSAY II.

### *On NATURAL LABOUR.*

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I TRUST that I have, in the preceding Essay, clearly demonstrated, that the extraordinary difficulty and tediousness of human parturition are inevitable; even under the most favourable concurrence of circumstances, because they depend on the peculiar form, structure, and position, of the human body. To preserve the patient from great inconveniences, which would otherwise happen, particularly to prevent the too easy descent of the child by its own gravity, the capacity of the pelvis is so disproportionate to the volume of the child's head, and its cavity of so irregular a shape, that the passage of the child through it, though



short, must be so intricate and complicated, that great and peculiar attention is necessarily bestowed by nature, to overcome the impediments, and to obviate the difficulties, arising from those causes: and it is the intention of this Essay, to point out the means which nature employs, and by which she ultimately accomplishes this operation, though slowly, yet in due time, and with perfect safety.

Without defining natural labour, and particularly without attempting to circumscribe its duration within any limits of time, I shall just beg leave to remind my readers, that it always implies a presentation of the child's head, and a safe and timely delivery of the woman.

The circumstances or changes which take place previously to actual labour, or previously to the entry of the child's head into the pelvis, or which are even preparatory to it, I purposely pass over, as



leading to no useful information, either respecting the theory or practice of midwifery. I shall likewise, on the same account, pass over all that innumerable variety of circumstances which, depending chiefly on the strength and frequency of the pains, discriminate one labour from another, and which are equally uninvestigable in their cause, and uncontrollable in their effect; but which, nevertheless, have by some late authors been detailed, with a frivolous, tedious, and whimsical minuteness.

In the consideration of this subject, I mean to confine myself principally to the description of the manner in which the child's head enters, passes through, and comes out of the cavity of the pelvis; with the effect of the compression of the bones of the pelvis, in altering the shape, in lessening the volume, in changing the position, in directing the progress, but particularly and ultimately in



facilitating the exit of the child's head through the os externum, in the best and safest manner.

As this is the most essential part of the process of labour, so the means are most admirably adapted to the purposed end, and only require to be noticed, fully to evince, that although woman is necessarily exposed to greater pain, difficulty, and danger in parturition than other animals, yet the God of nature has most benevolently bestowed peculiar care and attention upon her in this trying and perilous situation. This description will likewise have this object in view, it will explain the causes of those difficulties, which, depending on deviations from the natural relation between the volume of the child's head and the cavity of the pelvis, constitute laborious or difficult labours, in those different degrees which are to be the subject of the following Essays; it will also teach us



what are the best and safest means of art, to afford relief; and how, in the construction and application of such means, best to preserve that analogy to nature, which must be our most infallible guide, and which it is therefore our indispensable duty on no account to neglect, or lose sight of, in every part of the practice of midwifery.

Before labour commences, it is well known, that the head of the child rests above the brim of the pelvis, particularly on the symphysis pubis, in a diagonal or oblique form, with the occiput to one groin, and the face in the opposite hollow, between the projection or base of the sacrum, and its junction with the illium, where it unites with the last lumbar vertebra. After the os uteri has been first opened by the membranes and contained waters, forming a wedge-like bag, the next operation and effect of the labour-pains, or contractions of the uterus (for



they are convertible terms), must be on the body of the child, which being united to the basis of the cranium at the great foramen, and nearer the occiput than forehead, the greater pressure will be applied to the occiput, which being likewise smaller, and making less resistance, will be the first part squeezed into the cavity of the pelvis: and as it descends obliquely through the pelvis, the pressure of the two converging ischia will not be exactly opposite to each other on the two parietal bones; but one ischium acting or pressing on the part of that bone contiguous to the occiput, and the other, on the opposite side next to the face, (the head being made up of different bones, united by membranes, and forming various sutures and fontanelles, which permit the shape to be changed, and the volume to be lessened) it necessarily follows that the head, thus compressed, will take a shape nearly resem-



bling the cavity through which it passes ; and as, from the convergency of the ischia, the cavity of the pelvis somewhat approaches the form of a cone, the child's head is moulded into that shape, the shape of all others, best adapted to open the soft parts, and make its way through the os externum. This unequal pressure of the two ischia upon the head, will, in the first instance, direct the occiput, or apex of the cone, to turn under the arch of the pubis, where there is little or no resistance ; while the pressure of the other ischium in its further descent, will have the same effect on the other side, and direct or compel the face to turn into the hollow of the sacrum. This part of the process, which is essentially necessary to facilitate delivery, as it is the most important, so it is the most difficult to effect ; for if the pressure be not exactly applied towards the occiput on one side, and towards the face on the other, so as to be



sufficient to dispose the head to take this direction ; or if, from any extraordinary ossification of the child's head, it will not immediately and readily yield to the pressure of the bones of the pelvis, and mould itself into the intended oblong and conical shape ; or if, by any irregularity in the form of the cavity of the pelvis, or by any misplaced pressure on the child's head, whether towards the occiput or towards the face ; or any unusual resistance, either in the arch of the pubis, or the hollow of the sacrum, but particularly and chiefly if the relative volume of the child's head be too large for the capacity of the pelvis, this change in the position of the head will not take place, and then the long diameter of the head will remain inclining towards the sides of the pelvis, closely embraced by the spinose processes of the ischia, which there make the short diameter of the pelvis, and afford a complete barrier to its fur-



ther descent in that direction; and thus the labour will become, in a variety of degrees, either lingering or slightly laborious, which, if the change meant and intended to take place had really happened, though effected in the slowest possible manner, and by the most insensible gradations, would have been both easy and natural.

By this description, we evidently perceive the intended effects of the compression or re-action of the bones of the pelvis upon the child's head, in altering its original shape into an oblong or conical form; in lessening its volume, by compelling the bones to fold over each other; in changing its position, so as to make the different diameters of the head constantly to correspond with the different diameters of the pelvis; but particularly, and lastly, in directing its course, and turning the occiput, or the apex of the cone, under the arch of the pubis, and directly into



the os externum, in order to facilitate its final exit. So far the whole process, in the case under consideration in this Essay, is demonstrably an operation of nature, subject to her immediate guidance, and neither requiring or admitting of any interference or assistance from the attending practitioner.

For whether at the commencement of the labour, or at the first opening of the os uteri by the membranes and waters, or the first entrance of the child's head into that part, or indeed during its whole progress through the cavity of the pelvis, every interference, or pretended assistance, is equally improper and injudicious, because it may be injurious, and cannot be beneficial; but particularly I beg leave to urge, that the os uteri ought on no account to be irritated by frequent examinations, much less ought we to attempt to open or dilate it, in order the more readily to admit the child's head; nor,



lastly, ought we ever to rupture the membranes, in order to expedite or facilitate delivery.

But, to return to our immediate subject.—The bulk of the head being by this time engaged in the cavity of the pelvis, and the necessary turn completed, the hindhead for some time rests on the arch of the pubis, as a fulcrum, or fixed point, and firm support ; while the vertex and forehead, by repeated pressure against the perinœum, first relax, and then, by renewed efforts, stretch and lengthen that part which was both thick and rigid before. The occiput at length begins to insinuate itself into the os externum, thus relaxed and prepared to receive it ; and now, for the first moment, we are called upon for our assistance, to co-operate with nature, in the completion of her kind and wise intentions, of making this, the last stage of the process, as slow and deliberate as possible, or as the former part had



been; and by that means to prevent, in any degree, the laceration of the perinœum; an accident which, from inattention and carelessness, has certainly often happened, but which, I am persuaded, by proper management of this part of the labour, may invariably be prevented. For the perinœum, or soft parts are liable to laceration in labour, either from being, in their original state, too weak to resist the violent pressure of the child's head, and the vehemence of the labour-pains; or from over distension, by the sudden protrusion of the child's head, before the parts are sufficiently relaxed to be capable of undergoing such a change. By whatever cause the danger is incurred, it is infallibly to be obviated, by the timely application of the palm of the left hand to the perinœum, particularly to the extremity of the os externum, or the frœnum labiorum, which is the part where the greatest pressure is made, and being



thinnest, is the least capable of bearing it, and is therefore the part which is most liable to be torn. At the same time that the perinœum is strengthened by the application of the left hand, the right should be constantly applied to the vertex of the child's head, from the instant it has emerged from under the arch of the pubis, and begun to enter the os externum, by this means strenuously (in every pain) resisting its progress, and obliging the distension of soft parts to be as gradual, and the passage of the child's head through them, as deliberate as possible. By strict attention to this management only, I have never once in my life, during thirty years practice, met with a laceration of the perinœum to any extent.

The next and only circumstance requiring or admitting of any assistance from art, is certainly of much greater importance, in the conduct of a natural



labour, than the preservation of the perinœum; I mean the natural expulsion, or safe delivery of the placenta. To understand the nature and management of this subject distinctly or correctly, particularly to prevent the preternatural retention of the placenta, with the obvious consequences, I will beg leave to premise the following observations and reflections.

In the first place, it ought to be laid down as an axiom in the practice of midwifery, that no parturient patient is to be quitted by the attending practitioner, till the placenta is expelled by nature, or extracted by art.

Secondly, that under no circumstances whatever, ought the placenta to be permitted to remain in the uterus for any considerable length of time after the birth of the child; or, in other words, that more dangerous consequences may



result from such retention, than can possibly happen from its timely and cautious extraction.

Thirdly, that the natural expulsion of the placenta, is both easier and safer than the artificial extraction, however skillfully performed.

Lastly, that every endeavour ought therefore to be exerted to facilitate the natural expulsion, or to prevent the preternatural retention, or the necessity of recurring to art for the actual delivery of the placenta; which concluding part of the process of labour, is however, essentially necessary to establish the present safety, and future security of the patient.

It is well known, that the placenta is usually expelled from the uterus by a continuation of the same pains which had before expelled the child, and generally in less than an hour after its expulsion; but that frequently the placenta remains



a considerable time, without any effort at all on the part of the uterus, or at least with very ineffectual efforts, to expel it. One chief intention of this Essay is to recommend such means in the conduct of the labour, as may infallibly prevent this preternatural retention, whenever it can be effected. It will therefore be right and proper to inquire, why and how the placenta should ever be so retained; and having ascertained the different causes, we shall the better understand the means of art recommended for its prevention, or be the better able to counteract such causes, as are within our power or controul.

First, The placenta may be retained from the inert state of the uterus, or for want of that due power in the uterus to act, or to contract to that degree, which is necessary for the separation first, and afterwards for its expulsion.

Secondly, The placenta may be re-



tained from the irregularity of the action, or contraction of the muscular fibres of the uterus ; as will be more particularly described by and by.

Thirdly, Sometimes, though seldom, the placenta is retained by a morbid adhesion to the uterus, from accidental inflammation, or other injury, occasioned by external violence, or from original indisposition or disease of the uterus ; or perhaps the placenta itself may be subject to diseases of its own, which may be the cause of the adhesion. It will be obvious that the first and third retention depend upon causes neither investigable or controulable by us, they therefore cannot be hindered by our conduct ; but that the second, which is by much the most frequent case, and the prevention of which is very much, if not altogether, under the influence of our art, I will now endeavour to explain ; and then recommend such a management of the labour,



at a particular period, or towards the conclusion, as shall most safely and effectually prevent it.

It is very well known to anatomists, that the muscular fibres of the uterus run in every possible direction, very much resembling the muscular structure of the heart. So the structure of the uterus is described by Haller and Roederer; for, speaking of the muscular fibres of the uterus, as being partly longitudinal, and partly transverse, they add, "*Eorum ductus diffilime explicatur fere ut in corde:*"\* and the peculiar use of this structure is the same in both these organs; viz. in the heart, to contract the ventricles so closely, as completely to empty them of blood in their systole; and in the uterus, completely to discharge all the secundines, and afterwards to constrict the blood-vessels, and thereby prevent hemorrhages,

\* Halleri Physiol. Tom. VII. p. 56.



To understand more distinctly this part of our subject, I will beg leave to describe an imaginary structure of the uterus, and for once availing myself of a fiction in physiology, suppose that, (instead of ten thousand muscular fibres running in every possible direction) the uterus is only made up of two distinct arrangements of muscular fibres, the one passing longitudinally and directly from the os uteri to the fundus, the other either circular or twisting spirally, like a cork-screw, round the whole uterus, beginning at the os uteri, and extending in that direction to the fundus. It is demonstrable that by the regular combined action of fibres so arranged, if in unison, or possessing and exerting equal power at the same time, the uterus will be regularly, uniformly, and closely contracted, as soon as the child is propelled; the longitudinal fibres, in their action, drawing the two extremities of the uterus close together,



while the spiral or circular fibres acting in like manner, bring the sides so close, as that the intervening substance of the placenta shall only prevent their contact, and thus the uterus is reduced to a small, oblong, and round form. But if any number of the spiral or circular fibres should be much stronger, or more vigorous in their action, than the longitudinal fibres in general, then some intermediate part of the uterus will be contracted before the extremities, and of course the placenta will remain above such contracted part of the body of the uterus, and that even sometimes, after it shall have been detached or separated, being merely retained by this irregular, sudden, or perhaps spasmodic contraction of the uterus. Thus, when the placenta is unusually retained, I believe the retention happens nineteen times in twenty, in this way and from this cause; but I am persuaded it may always, and invariably, be pre-



vented; or that, in other words, the labour may be so conducted, towards its conclusion, as effectually to prevent the too sudden, irregular, and misplaced contraction of the uterus, by obliging it first to begin to contract at the fundus, during the birth of the child, in the slowest, and therefore best manner. This will be completely effected by only retarding or impeding the rapid expulsion of the body of the child, after the birth of the head, by keeping the shoulders in the vagina for some minutes, or during the operation of some pains. In the same manner we ought to resist the further progress of the body, when the shoulders are expelled; by which means the fundus uteri will be first completely empty, and of course be closely contracted, before any other part can be either empty, or contracted. As the child's body is thus permitted to advance slowly, leaving only the parts of the uterus contiguous to the



fundus successively empty, so those parts only, can be closely contracted, or nearly brought into contact; for so long as any part of the child's body remains in the cavity of the uterus, it is obvious that the spiral, or circular fibres, can only act in such a way as to embrace or come into contact with the child's body: the irregular, spasmodic, or partial contraction, can therefore, never happen; and of course the retention of the placenta, depending on such cause, must be prevented. Thus, even in the management of a natural labour, much mischief may be obviated, by this proper, but apparently trifling, application of art; for both the laceration of the perinœum, and the retention of the placenta, may very generally, if not always, be prevented.

Many years ago, the ingenious Mr. White, of Manchester, very sensibly pointed out the inconveniences of attempting to expedite the delivery of



the body of the child, after the birth of the head; the prevailing but injudicious practice of that time. The retardation and resistance recommended above, is a confirmation of the propriety of his practice; and, from experience I am convinced, a very useful extension of the principle. The manner of delivering the placenta, and the dangers arising from its retention, especially as connected with uterine hemorrhages, do not come within the intention of this Essay on Natural Labour, but are reserved for some future occasion.

Before I conclude this short Essay, I must beg leave to repeat, and assert with a confidence confirmed by long experience, that the methods recommended above to preserve the perinœum from laceration, or prevent the retention of the placenta, are equally infallible.



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### ESSAY III.

#### *On LABORIOUS, or DIFFICULT LABOURS.*

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IT must be obvious, from the preceding description of parturition, that, under the most favourable circumstances, it is the intention of nature, that labour should be a slow, deliberate, and painful operation; and as it is an important process, producing material alterations in the human constitution, most probably its safe termination, or the future security of the patient, depends very much upon those qualities, and the consequent effects. Every attempt, therefore, upon slight occasions, to interrupt this deliberate and protracted course, evidently designed by nature to answer the wisest and best pur-



poses, must be founded on wrong principles, may, and often will be productive of present or future injury to the patient. There is however a period, beyond which the duration of labour cannot be protracted, without great and imminent danger to the patient; which duration, depending upon deviations from the natural course of labour, is extended sometimes to several days, and constitutes what are called laborious or difficult labours, in various degrees; inducing different states of danger both to mother and child, and requiring very different treatment, or different means of art to afford relief, under that variety of circumstances in which they occur.

To understand correctly and distinctly the different conditions of the patient under these various degrees, I shall as usual, divide laborious or difficult labours into three classes.

The first class comprehends all cases



where, though the labour be very slow, tedious, and difficult, yet it shall be ultimately and safely accomplished by the powers of nature, without any assistance from art, or without the slightest interference of the practitioner, except the attention so strongly recommended in the preceding Essay, to preserve the perineum from laceration, and prevent the retention of the placenta.

Secondly, The next class comprehends all cases where the powers of nature, however long exerted, are demonstrably unequal to the accomplishing of the delivery, and where we are compelled by the last necessity, or utter inability of nature, to have recourse to art, for the actual preservation of the mother's life; but upon the presumption that the child is at this time living, the means of art to be employed are to be compatible with the child's safety, or such as shall certainly neither injure nor destroy it.



The third class, or the last degree of difficulty, is where, from the extreme deformity of the pelvis, or disproportion of its cavity to the volume of the child's head, the child cannot be extracted alive ; but where, deplorable as this condition is, its head must be opened, the contents discharged, and of course its life sacrificed for the preservation of the mother ; or, what is still more deplorable, the mother's life must be sacrificed for the preservation of the child, by submitting to the Cæsarian operation ; or they must both together be involved in the extremest danger, by the division of the symphysis pubis. Such sometimes is the lamentable situation of unhappy woman ! to extricate her from which is the first duty of the practitioner in midwifery ; and to point out the means of effecting it in the best and safest manner, is the chief intention of these Essays.



As the objects which must first strike an attentive observer of this process of parturition, are the slowness and operose-ness of labour, the insensible gradations in the descent of the child's head, the difficulty with which delivery is at last effected, and the strong and repeated pains without which it can never be accomplished; so the great principle of conduct, endeavoured to be enforced by these Essays, is the avoiding every interference of art, which may interrupt the natural course of labour, till urged by that last necessity, which, upon all occasions, supercedes every other consideration, both in the moral and physical world. Till that necessity arrives, this first class of laborious or difficult labours, is as much under the guidance of nature, or as much subject to the laws of the female animal economy, as the easiest possible natural labour. In the first place, then, let us determine, as I have elsewhere expressed



myself, how long we may safely, and how long we therefore ought patiently, to wait the powerful efforts, the painful, but secure exertions of nature, or how long the case may be included in the first division of laborious or difficult labours, which are to be ultimately, though with great difficulty, accomplished by nature herself; again repeating that, in all probability, in these cases, the tediousness and painfulness of the labour, however irksome to bear, have a considerable share in insuring the future security and perfect recovery of the patient.

To point out the precise instant of time where the first class ends, and the second begins, or to describe the precise circumstances of the labour which are to demonstrate, that the powers of nature are exhausted past renovation, and which, therefore, are to justify us in having recourse to art, or the use of instruments, for the actual delivery of the patient, and



the preservation of her life, is perhaps one of the nicest, most difficult, and most important parts of our professional duty: lest, on the one hand, we should have recourse to instruments precipitately and unnecessarily; or, on the other, protract their application too long, till the mischief is past relief, and perhaps death inevitable. It depends upon such an accurate discrimination of circumstances, which relate to the duration of the labour, the particular constitution of the patient, or the state of her body previous to parturition, as well as the manner in which the labour itself has been conducted, and the effect it has produced upon her in its progress, especially the degree of fever which may have been excited; that it must be evident, under such a variety of circumstances, it will be hardly possible to lay down any general rule of conduct, but what will be liable to so many objections and exceptions, and be



clogged with so many difficulties, that at last, much, very much, must be left in every case to the discretion, judgment, and sagacity of the practitioner.

These general observations can only tend to excite the attention and regard of the practitioner; I will therefore now be more particular, and endeavour to convey the result of my experience and attentive observation, by pointing out to the young practitioner some of the most material circumstances of the case, which demand his immediate consideration, and by which his opinion must be formed, and that last necessity established, which is to justify his practice, and for the propriety and consequent effects of which practice, he must and ought to be responsible.

These are, first, the duration of the labour; secondly, the unaltered position of the child's head; thirdly, the continued cessation of the labour-pains, from exhaustion of bodily strength.



The circumstance which will here necessarily and obviously demand our first attention, is the length of time that the labour has continued; which, though taken alone or singly, is by no means sufficient to induce us to believe, that the difficulty is insurmountable by the powers of nature; yet when accompanied with the following circumstances, is entitled to considerable weight in the determination of that last necessity referred to above, as the surest principle, and completest justification of our future conduct. Thus, while a considerable diminution in the strength and frequency of the labour-pains, or even a temporary interruption of them in the early part of the labour, or within twenty-four hours from the commencement, should not induce us to have recourse to art; yet the very same circumstance occurring at the end of the third or fourth day, ought to afford a strong presumption of the utter inability



of the powers of nature to accomplish the delivery without assistance from art.

Secondly, The next circumstance by which we are to form our opinion of the inability of nature, is the unaltered position of the child's head in the pelvis for any considerable length of time, notwithstanding that the labour-pains, or the powers of nature, have been in full vigour: for, so long as we can perceive that the head advances at all, however slowly (the same propelling powers continuing to act), we may reasonably expect that the birth of the child will be at last accomplished by nature; but, on the other hand, if the child's head remains immoveably fixed in the pelvis for many hours, we must conclude that it is compressed into the smallest possible volume that the powers of nature can effect, but is yet too large to pass. This situation of the child's head among the bones of the pelvis, makes the true *para-*



*gompnosis* of the Greek writers, the *caput incuneatum* of the Latins, and the genuine *enclavement* of the French; but for which we have no technical expression in our language.

Thirdly, The continued cessation of the labour-pains for several hours, with the head in the situation just described, accompanied too with other signs of general debility, which, depending on the same cause, are evident from an alteration of countenance, and a weak and quick pulse; and which demonstrate that the living powers of the whole body, or *vis vitæ*, are greatly reduced, if not irrecoverably exhausted. This state of the patient is very different from that occasional and temporary suspension of the active powers of life, or uterine contractions, which often takes place in the early stage of labour, and which is evidently intended by nature to act in the same way, as sleep does every day in the



ordinary course of life, and which suspension is indeed generally accompanied by short sleep, and followed, upon waking, with a renewal of the labour-pains: but here, all the powers of life are exhausted, all capacity for further exertion is at an end; and the mind as much depressed as the body, they would at length both sink together under the influence of such continued but unavailing struggles, unless rescued from it by means of art.

Having thus endeavoured to ascertain and demonstrate that inability in the powers of nature, which amounts to a physical impossibility of the delivery being accomplished without the assistance of art; or, in other words, having proved that the case is arrived at that last necessity which is to direct and justify our conduct; before I proceed to inquire into the comparative merit of the different means which have been invented by ingenious men for the express purpose of giving re-



lief in such cases, it will be right to premise, that the propriety of leaving the patient to such a tedious, and (as the event proves) unnecessary state of suffering, from the unavailing powers of nature, rests on the impossibility of determining *a priori*, that those powers cannot succeed; and a thorough conviction, from long, attentive, and extensive experience, that no danger whatever can happen from this patient expectation, unless disease, of such magnitude as to threaten present or future danger to the patient's life, has either happened previous to parturition, or occurred at any period of the labour, from its commencement to the present moment. The very nature of the case, it must be obvious to the most superficial observer, will be changed by such morbid occurrence. It was to guard the patient only against what might be the mischievous effects, and dangerous consequences, of prema-



ture and unnecessary assistance, that the last necessity so fully described above, was so strenuously urged upon the principle, that to that point of time we ought patiently, because so long we might safely, confide in the powers of nature; a fundamental principle in practice, which I beg leave again to repeat, because I hold it to be so important, that it cannot, in my opinion, be repeated too often. That rule of practice was however by no means intended to preclude us from having immediate recourse to art, at any period of the labour, even during the most vigorous exertions of nature, if the patient was attacked with any disease which might endanger her life if delivery was protracted. The lesser danger must yield to the greater in all cases; and here, instantaneous delivery affords the only probable chance of safety to the patient; and even if not performed in the most skilful manner, is infinitely



less dangerous in its future consequences, than leaving the patient for any length of time undelivered.

The cases of danger alluded to above are,

First, Fever ;

Secondly, Hemorrhage ;

Thirdly, Convulsions.

With respect to fever, it is well known to every practitioner in midwifery, that fever, in the puerperal state, is always dangerous to a great degree, and very often fatal. If, therefore, the patient falls into labour under the influence of fever ; or if, in the progress of the labour, fever should be excited to any considerable degree, as the danger from fever greatly increases by continuance, and it must continue so long as the woman remains undelivered ; in such a case, early recourse should be had to art: the woman ought undoubtedly to be relieved from such impending danger, for it is



greater than what may arise from any accidental injury in artificial delivery.

In all cases of hemorrhages and convulsions, happening, *durante partu*, the propriety or necessity of immediate delivery, whether instrumental or manual, is now so universally acknowledged to be founded on the firmest principles of science, as to be admitted an invariable rule in practice, because affording the only probable chance in such cases of preserving the patient's life; it therefore becomes unnecessary to enforce the doctrine by any argument, or confirm it by any facts.

I cannot however avoid, upon this subject, urging with an earnestness and confidence founded on, and confirmed by, the experience of more than thirty years, in a great variety of instances, both of hemorrhages and convulsions, that recourse be had to artificial delivery, immediately upon the first attack, and long before



danger is apparently incurred; for if we wait till symptoms of danger arrive, the event will prove that, in general, we shall have already waited too long.

We cannot in such cases be too quick in the determination of the measures to be pursued, nor too prompt in the execution of them; however caution and deliberation might have been the right line of conduct in the preceding state of the labour, or while it was unattended with any circumstances of danger, here too much celerity cannot be exerted; the preservation of the patient's life actually depends on our expediting the delivery with the utmost dispatch. For if the danger arises from hemorrhage, it is demonstrable that the uterus cannot contract, the vessels cannot by any possible means be constricted, till it is completely emptied of its contents by the delivery of child and placenta.



What may be the primordial cause of parturient convulsions is extremely difficult to determine, and is not our business here to inquire; but that they originate from, and in general are dependant upon, that state of the uterus which can be removed only by delivery, I am persuaded, from repeated experience; and that no remedy can be used, with any reasonable expectation of benefit, till delivery is completed; and that therefore it is our indispensable duty to effect it in the quickest possible manner.

Before I conclude this Essay, I beg leave again to assure my readers, that I never once in my life had reason to believe, that danger was incurred by merely waiting till there was a perfect exhaustion of the powers of nature, unless fever had been excited by improper treatment during the labour: on the contrary, I believe it is confirmed by general observation,



that women recover at least as well after long, lingering, and laborious labours, the duration of which may have been extended to several days, as after the easiest, quickest, and most natural delivery.





## ESSAY IV.

*On* LABORIOUS *or* DIFFICULT LABOURS,  
*requiring* INSTRUMENTAL DELIVERY.

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### SECTION I.

HAVING in the former part of the preceding Essay described the first class of laborious or difficult labours, where, though slowly and with great exertion, nature is at last able to accomplish the delivery by her own powers; and having likewise asserted, that till those powers are absolutely and altogether exhausted, or, in other words, till we are arrived at that last necessity which supersedes every other consideration, we never can be justified in having recourse to instru-



mental delivery. In the concluding part, I endeavoured to point out those circumstances which demonstrated that utter inability of nature to finish the process without assistance, and stated, that as we might with certain safety, so we ought with the utmost patience to wait till that precise period of the labour arrived ; for that if we did not so long wait, we should frequently have recourse to an operation which was unnecessary, and might be hazardous, and therefore would be most unjustifiable. With an express exception, however, that no accidental circumstance should occur of so dangerous and alarming a nature, as either immediately, or in its remote consequences, to threaten the life of the patient, unless she was instantaneously delivered, and which was invariably the case in hemorrhages and convulsions.

It is the intention of this Essay to consider what ought to be our conduct,



and what the instrument we ought to use, as best entitled to preference, when arrived at that precise period of the labour described above, or under the pressure of those dreadful circumstances just mentioned, both of which require and urge us to render such assistance as shall immediately rescue our patient from that great and impending danger which is ever attached to uterine hemorrhages, or uterine convulsions.

Before I proceed to prefer and recommend any means of art to be used on this occasion, it will be both right and proper to state, that we are always in this case bound to suppose, that the child is unquestionably living, and that we are of course to use such instruments as are certainly not only compatible with the life of the child, or which by their action do not necessarily endanger its life, but which are perfectly competent to the re-



lief of the mother in every difficulty, and yet, if properly applied, are incapable of doing the smallest possible injury to the child.

Though the labour may have been protracted to three or four days, and though no motion in utero may have been perceived by the mother for some time, we may yet reasonably presume that the child is alive; for want of ability in the child to move may only happen from the close contraction of the uterus round its body; or the compression of the bones of the pelvis may have been so considerable on the contents of the head, as to deprive it of all powers of motion; yet such compression being equable, and effected in the slowest possible manner, it does by no means necessarily destroy the life of the child, and we are therefore bound to presume that it is yet in existence. Little or no inconvenience can



arise from that presumption, but the most dreadful consequences may ensue from the contrary.

Different causes in all cases create different difficulties, which require to be previously and correctly known before we attempt to remove them.—“ *Estimatio causæ sæpe morbum solvit,*” says the acute Celsus. In the subject immediately under consideration, which is that degree of difficulty arising from the inability of the powers of nature to propel the child’s head through the pelvis into the world, it must be obvious, that upon whatever cause this inability might originally depend, the present state of the difficulty certainly and solely rests upon the disproportionate volume of the child’s head, with relation to the capacity of the pelvis, through which it is obliged to pass; for it must be evident, that whether the head be preternaturally large, or the pelvis unusually small, or that the active and



contracting powers of the uterus are only unequal to the final expulsion of the child, the case is precisely of the same kind, the difficulties belonging to it are of the same nature, and are to be obviated exactly by the same means. For whether the cause depends upon the child's head being either naturally, or from disease, too large, or whether it be only too much ossified, so as not to yield or give way to the compression of the bones of the pelvis as it ought; or if the position be wrong, so as that the long diameter of the head remains in the short diameter of the pelvis; if any of these causes impede its passage, they can only be removed, by having both the form and position altered, and the volume lessened. If the difficulty depends upon the dimensions of the pelvis being too small, whether only with relation to this particular child now passing through being too large, or as occasioned by de-



formity, and therefore with relation to all future children; or if there is only such a total failure in the propelling powers, as that the child's head remains immoveably fixed, merely on that account; or if the difficulty of the case arises from a combination of all these causes together; or is occasioned partly by one, and partly by the other, the case is strictly and precisely the same; the one cause is tantamount to the other, or exactly equivalent in its effect.

Nothing can be more certain or obvious, than that we possess no means of enlarging the dimensions of the pelvis, however disproportionate they may be. It is likewise universally acknowledged, that we possess no means of restoring the expulsive powers of the uterus, already exhausted, or of exciting fresh and more vigorous exertions of the body; as all medicines formerly recommended for that purpose, such as the *pulvis ad*



*partum*, or *julepum ad partum*, &c. are discarded from modern practice. Thus the only means of relief which the nature of things, or the principles of our art admit, must and only can be applied to the child's head.

Having before laid it down as an inviolable rule of practice, that no means of art are to be applied till we are satisfied of the utter inability of the powers of nature to accomplish the delivery; or, in other words, till we are arrived at that last necessity which forbids all further expectation, and justifies our conduct in having recourse to instrumental delivery; it is hardly necessary to mention, that before the patient can be reduced to that state, it is always to be understood that the child's head must have been previously forced into the cavity of the pelvis, by the propelling powers of nature, and that (being alive) in that situation, it constitutes the second class of laborious



or difficult labours. For if the head of the child cannot enter the pelvis, from deformity or smallness, it constitutes the third or last class of difficult labours, which is to be the subject of the following Essay.

I will therefore now consider the means of art, or different instruments, invented by ingenious men for the express purpose of yielding relief, where the child's head is engaged within the pelvis, and presumed to be alive, and can be no further moved by the powers of nature.

I will beg leave, before I proceed, again to repeat what are evidently the objects which nature has in contemplation to effect, by the particular complex form of the female pelvis, and its pressure on the child's head in the passage through it; that so we may never lose sight of her wise intentions, but always in our art endeavour to imitate them. To avoid the inconveniences which would other-



wise inevitably happen, it has been repeatedly observed, that the form and volume of the child's head are such, compared with the cavity of the pelvis, as to prevent the too ready entrance, and the too easy passage through, by its own gravity ; notwithstanding which, it is obvious that it must necessarily enter, and must always pass through, in parturition, whether with ease or with difficulty, whether slowly or quickly : it is equally obvious that, if the powers of nature are unequal to the completion of the process, the final expulsion must be effected by the assistance of art. From the description already given of the manner in which the child's head is forced through the pelvis, with the alteration of shape, and diminution of volume, it clearly follows, that if the labour is not finally accomplished by nature, it can only be, because the head of the child, from position or volume, or both, is too large, or the pelvis, either na-



turally, or by deformity, is too small; or, lastly, the expulsive or propelling powers or labour-pains, are too weak: as then the pelvis cannot be enlarged in capacity, or corrected in shape, nor the labour-pains by any means increased, it is evident that the whole application of our art must be directed to the child's head; in the first instance only to compress it more, and thereby alter its form, and lessen its volume, but afterwards to substitute, instead of the natural expulsive powers of the uterus, an extracting purchase which shall stand in their stead, if they are entirely worn out; or which shall assist or co-operate with them, if they are only weakened or impaired.

In the construction of the means of art to be employed on this occasion, we thought never to lose sight of the way in which nature accomplishes her work, or the manner in which she, by the compression of the bones of the pelvis, does



universally and infallibly alter the shape, lessen the volume, change the position, direct the progress, and ultimately facilitate the exit of child's head through the os externum ; for certainly that instrument which best preserves this analogy to nature, in these different effects, must be entitled to a decided preference ; must be both best and safest. Upon this principle, laying down this analogy, as a datum or axiom in practical midwifery, I will first describe and recommend the forceps, and then compare it with the vectis, the two instruments in common use, both here and on the Continent, in that degree of labouriousness or difficulty which requires and admits of that instrumental assistance, which, while it safely and effectually relieves the mother, is equally compatible with the safety of the child.

The child's head is supposed to be so firmly fixed in the pelvis, that it can only be removed, or the resistance it meets



with, can only be overcome by means of that mechanical power or organ called the lever.

It does not come within the intention of this Essay, nor indeed is it necessary on this occasion, to enter into a minute description of the lever and its properties, its powers, and its varieties; but as applied to our use or purpose, whether in the simple form of the vectis, as we technically call it, or in the more complicated form of the forceps, there is some essential difference in the different kinds of the lever, both respecting their application and effect; and as it is one particular intention of this Essay to estimate their comparative merit, it may be right and necessary to remind or inform my readers of the general notion of the use of this mechanical organ or power; first, as it relates to inanimate matter, and afterwards as it is to be applied to the living body.



To understand the power of the lever then, and its operation on inanimate matter, we are to suppose that a weight is to be raised or supported, a resistance to be overcome, or some impediment to be removed; and that according to the manner in which the moving power is applied, to answer any of these purposes, it becomes, and is called in mechanics, a lever of the first, second, or third kind.

With respect to the use of all levers, it is to be understood, that there is a weight, in the mechanical sense,\* to be raised; to effect which, there must be a part of the instrument applied to the weight; there must likewise be the moving power, and the fulcrum, or fixed point, or centre of motion, upon which

\* A weight is any body to be sustained, raised or depressed, pushed or drawn, or moved in any manner; so the expression, to raise a weight, in a mechanical sense, is very extensive.—See Doctor Desagulier's Course of Experimental Philosophy, Vol. I. p. 48.



the instrument rests and acts, and by which its power is infinitely increased: these make the three requisites in every lever.

In the first kind, the weight is at one extremity of the lever, while the moving power is applied to the other, and the fulcrum, or hypomochlion, or centre of motion, is placed as the joint of the forceps, between the two.

In the second kind the fulcrum is at one end, and the moving power at the other, and the weight, or resistance, between. It is obvious that this kind never can be applied to our purpose.

The third kind is when the weight is at one end, the fulcrum at the other, and the moving power between the two.

The forceps is always a lever of the first kind; but the vectis is intended to act, and may be used either as a lever of the first, or of the third kind, according



to the manner in which the hands of the operator are employed: for if the right hand be the moving power, and be applied to one end of the instrument, while the other end of the instrument is applied to the child's head, and either the left hand, or any of the bones of the pelvis, are made the fulcrum, as they are between the two extremities of the instrument, it becomes a lever of the first kind; but if the right hand of the operator is used as the fulcrum at the extremity of the instrument, and the left is applied to the middle of it, or between the two extremities, and is the moving power, it then becomes a lever of the third kind: and thus it is always meant to be employed by Monsieur Herbiniaux, as he himself says, by the additional means of the ligature, or string; and so I believe it is very generally used here, whether with the addition of the string, or without it.



So far I have thought it necessary just to consider the mechanical power of the different kinds of lever, whether applied to inanimate matter, or to the living body; for although the action is the same in both, the effect of the pressure upon the fulcrum is very different.

It is not my intention to inquire into the invention of either of the instruments mentioned above. We have no authentic account, written at the time, of either. The general opinion has been, that Dr. Chamberlain, of London, invented the forceps, and Henry Roonhuysen, of Amsterdam, the vectis: at least they have usually been called the forceps of the first, and the vectis of the last.

Smellie and Levret formerly, Dr. Bland, and Dr. Denman lately, but especially Monsieur Herbinieaux, have collected all the information and evidence which is to be procured at this time, but have still left the fact undetermined,



Though one might be disposed to allow that the forceps and vectis were both good instruments, they certainly cannot both be best, and it is my intention to consider which is the best instrument of the two, which is constructed upon the best principle, or which is best adapted to overcome the impediments to delivery, and to preserve both mother and child from every possible injury in the operation; for that instrument we are bound to use, without any reference to our own ease or convenience. This inquiry it has been my fixed purpose to pursue ever since the publication of the *Essay on Laborious Parturition*; but I have found myself called upon at this time to fulfil that intention, by some recent publications, which I shall more particularly consider in the progress of this *Essay*.

I will now further consider and examine the merit of the forceps; first re-



minding my readers, that the difficulty which we are called upon to obviate by this instrument, depends upon the disproportionate volume of the child's head, compared with the capacity of the pelvis, accompanied with an entire cessation of the labour-pains, by which it otherwise might have been further diminished, and finally expelled. To lessen the volume of the child's head in the first instance, and in a way that may be compatible with life, and which certainly shall not destroy it, is the first object in contemplation in the contrivance of the structure of this instrument. The second is, to afford such assistance as shall be equal to the future completion of the delivery, when the head is thus lessened, and that, without any injury to the mother, either in the introduction or application of the instrument, or final extraction of the head: for it must be obvious, that however lessened the head may be by compression, if the ex-



pulsive powers are extinguished, an extracting force must be substituted instead of them, or the woman would remain undelivered, even though the child were ever so much lessened in its volume: hence the use of that particular structure of the instrument by which the extracting purchase is given. To effect these two great essential purposes, perhaps there never was an instrument invented more ingenious than the forceps, in the original contrivance, more simple in the structure, better adapted, or more capable to overcome every possible resistance, to answer every beneficial intention, and to guard against every possible injury, either to mother or child: I am not afraid of asserting, that, if applied with ordinary skill and attention, it is infallible in its effect, in every possible degree of difficulty, from the slightest to the greatest, if the child's head is only in such a position as to be within reach of the



instrument. What that position ought to be, and by what means discoverable, shall be stated by and by.

Having already ascertained the necessity of instrumental assistance, by pointing out the signs of inability in the powers of nature to accomplish the delivery, and having likewise mentioned the circumstances of danger which may require the immediate application of art to preserve the patient's life, and proved that the lever is the mechanical power by which alone relief is to be afforded; and after describing the three different kinds of lever, having recommended the forceps as decidedly the best modification of that power, and a most infallible instrument in all these cases; I will now describe what ought and must be the situation of the child's head in the pelvis, and how it is to be determined, before we should attempt to use, because it is before we can succeed, with this or any



other instrument, which, by its construction, must act as a lever, and which by its use is intended to preserve the life of the child, while it affords effectual relief to the mother.

The vertex, or presenting part of the child's head must then not only have entered the upper aperture of the pelvis, but the head itself must have descended so far into the cavity, as that the basis of the cranium shall be at least parallel with the brim of the pelvis; while the vertex is touching, or resting upon the spinous processes of the ischia. This situation is always discoverable by feeling the ear of the child; which, at this period of the labour, (before the turn is completed), is invariably found a little on one side of the symphysis pubis. Whenever an ear then can be perceived by the touch, so large a portion of the volume of the head must be engaged in the cavity of the pelvis, that the basis of the



cranium is certainly and invariably within reach of the grasp of the instrument; in which case, if applied in the manner directed, the purchase will be so great, and the hold so perfect, that the delivery must be speedily and safely accomplished. It will be immediately obvious, that the lower the head of the child may have descended, the more certainly will it be within the reach and power of the instrument, and the more infallibly shall we succeed by its application.

But in no case can we with perfect safety, and in no case therefore ought we to attempt to deliver, with any instrument intended to extract a living child, so long as the head remains above the brim of the pelvis; for in no instance, while the child's head does rest there, can we be justified by that necessity which arises from the inability of the natural powers, or that extreme danger which ever accompanies hemorrhage or convul-



sions. For it is impossible that the powers of nature can be exhausted, but by those long and continued exertions, which must at length force the head into the cavity of the pelvis, unless there exists such a degree of deformity, as amounts to a physical impossibility of the child's head entering whole, and which is not the case now under consideration. If hemorrhage or convulsions happen at this period of the labour, or while the head rests above the brim, or is only just entering the pelvis, it will be both easier and safer to turn, and deliver by the feet, than to attempt to use any instrument, for the hand is certainly less capable of doing injury, than either the forceps or the vectis.

Having determined the necessity of the case requiring the assistance of the forceps, and ascertained the position of the child's head within the pelvis, admitting the use of this instrument, it next becomes necessary to give a short description of it, with



some general rules for its application; premising, that it is not my design to be very minute in the description, much less is it my intention to give a tedious detail of the manner of using it, or performing the operation of instrumental delivery: both the one and the other have been described by some late authors with insignificant and useless minuteness. To those who have been instructed in the principles of the science, and who have acquired the knowledge of practice by repeatedly performing the operations on the machine, such a description, and such directions, must be unnecessary, for they constitute the very rudiments of obstetrical education; and unless he has acquired the practical art by such means, no man ought to attempt to perform this operation; indeed, no man can perform it, upon the living subject, with safety or success. To those who are neither masters of the science nor practice, who do



not understand the principles, but who especially have not acquired that dexterity or facility of action, which is necessary in all manual operations, and most of all in this, such a description and directions must be completely useless. As well might one expect to be able to put together the movements of a watch, or arrange any other nice piece of mechanism, or to be able to perform upon a musical instrument, by written directions only without practice, as to be able to apply the forceps safely or effectually by the most accurate verbal description.

At the same time, as every instrument of this kind is not equally good, it is obvious, that its excellence must very much depend upon the accuracy of its form and size, in length and breadth; so as to be best adapted to the complex shape of the mother's pelvis, and the child's head, that the outer or convex side may exactly correspond with the concave



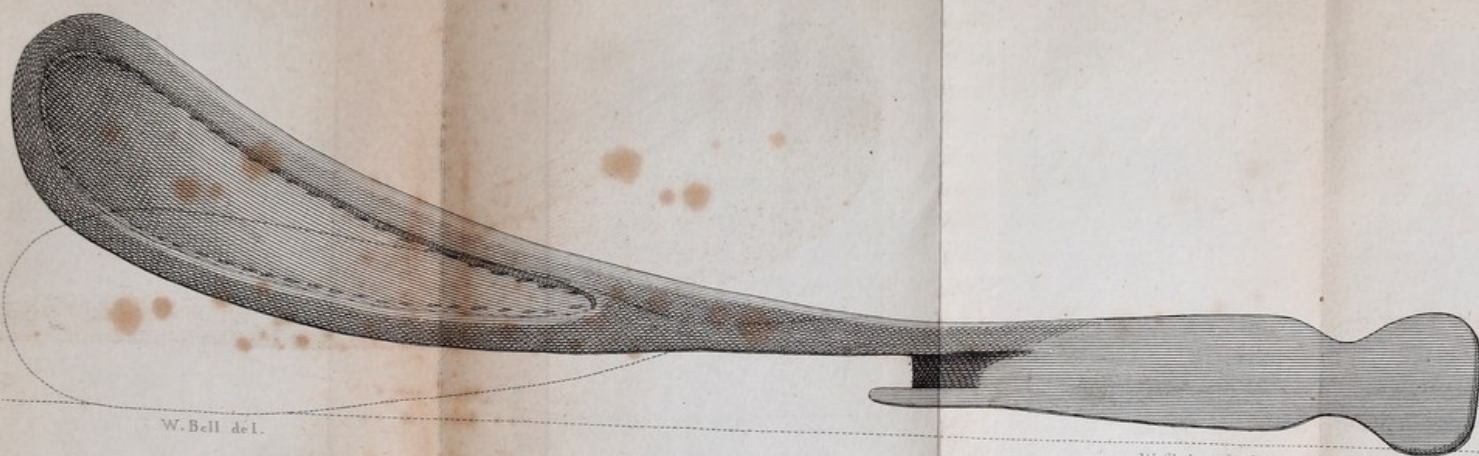
pelvis; and that the inner or concave surface of the instrument, may be as exactly adapted to the convexity of the child's head; that the compression may be so equable, as neither to leave any external mark of their application upon the integuments without, or do the smallest injury to the cerebrum within. With respect to the mother, it ought to be so formed, as that not only the usual convexity of the branches should be exactly suited to the concavity of the bony pelvis, but both in shape and size they should be so constructed, that, by ordinary skill and attention, they may be used with tolerable facility, and that, without the smallest possible injury to the soft parts within the vagina, either in their first introduction, or their subsequent application, and without the slightest laceration of the perinæum, in the final extraction of the child's head. To perfect the instrument, that we may at-



tend to the complexity of the shape of the pelvis and the soft parts, but with a particular reference to the different direction or axis of the vagina and pelvis, it becomes necessary to give a slight curvature or convexity to the edge of the blades, that they may be the more easily and readily introduced, and properly applied, and more exactly adapted to the concave sacrum, that thereby the purchase or hold may be more certainly secured, so that when once fixed, they may never slip from the head, or even shift their position.

To save time and trouble, and to convey a perfect idea of the instrument which I would recommend in preference to all others; the annexed plate is added, which is an exact delineation of one blade; and the instrument may be had, according to my exact directions, either of Mr. Savigny, in Pall-Mall, or of Mr. Carsberg, in Great Windmill-street.



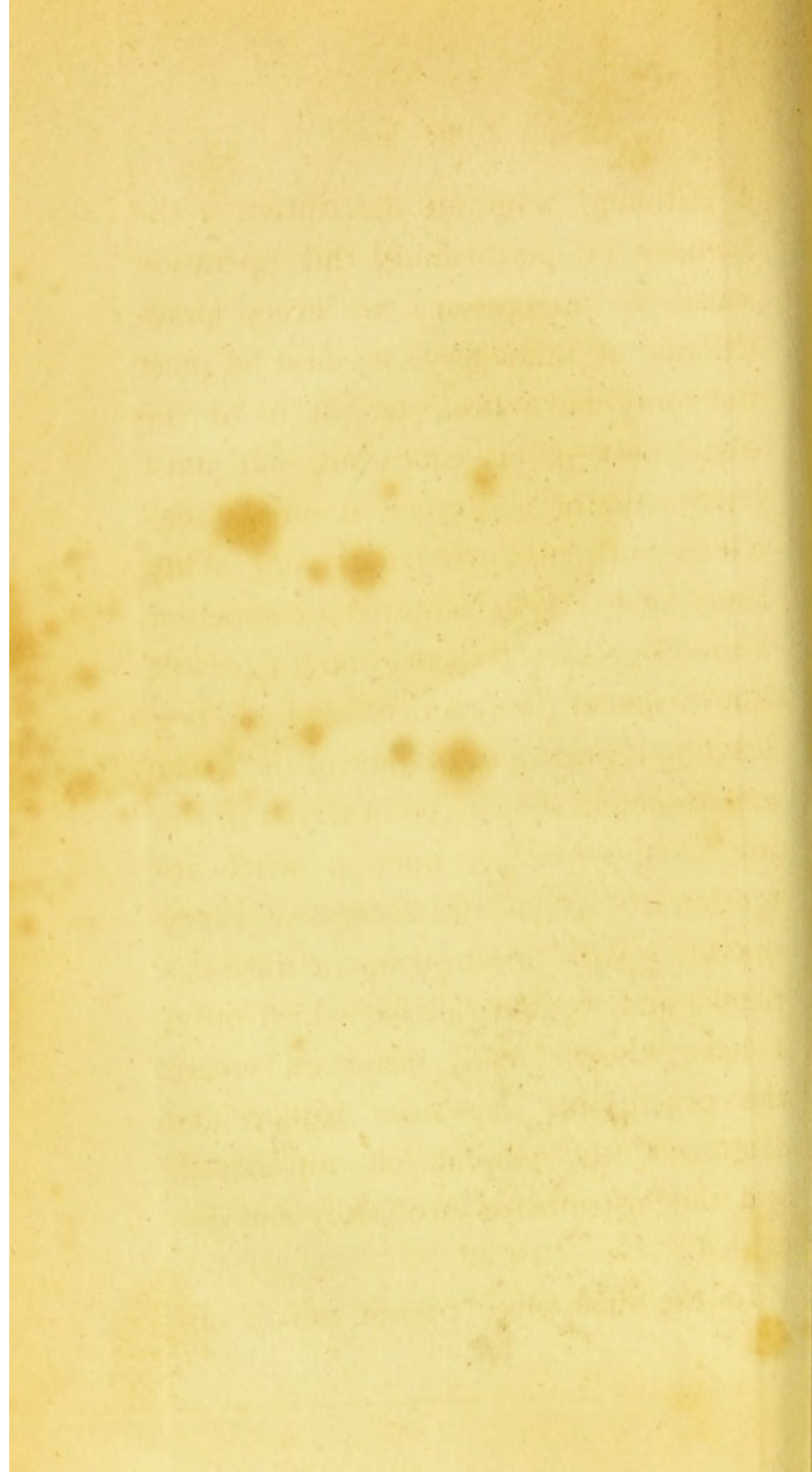


W. Bell del.

W. Skelton Sculp.

	Inches
Whole length	11 $\frac{3}{4}$
From the angle of the joint	6 $\frac{1}{4}$
Handle, to the angle of the joint	5
Breadth between the blades, in the widest part of the Curve	2 $\frac{1}{2}$
D <sup>o</sup> of the blade, near the point	1 $\frac{1}{4}$
D <sup>o</sup> of D <sup>o</sup> at its centre	1 $\frac{1}{4}$







Although a minute description of the manner of performing this operation must be unnecessary to every practitioner of midwifery, because he must not only have been taught it in the early part of his education, but must have actually performed it on the machines with his own hands very many times, and thereby acquired a competent knowledge of the theory, and a perfect knowledge of the practice, yet I will beg leave to remind him of some of the great and principal rules to be observed in the use of the forceps, upon a strict attention to which the success of every operation with this instrument must depend; and from neglecting which only, I have known many instances, where the practitioner has been baffled and disgraced, the patient left unrelieved, and the instrument thrown by and discarded.

In the first place permit me to ob-



serve, that there are two diameters in the child's head; the longer, extending from the fore to the hindhead, and the shorter, from side to side, or from one ear to the other; that in laborious or difficult labours, although the head be considerably lengthened in its passage, and changed in its form, yet the short diameter will still be from side to side, or from one ear to the other, in whatever manner the head presents, or in whatever position it may now remain, whether the face be to one side or the other, upwards or downwards, forwards or backwards.

One of the first general rules in the use of the forceps, after having determined the necessity of their service, and the position and presentation of the head, is to apply them over the ears of the child; by observing which, all possible injury to the features of the face will be certainly avoided: but as only one ear can usually be reached, which is that nearest



the symphysis pubis, the first blade is to be applied there, with a particular attention in the introduction, that the convex edge be towards the face, and that the point of the instrument be constantly kept in contact with the head; to effect which it will be necessary to remember, that the child's head is in every part convex, and therefore as the instrument advances, the handle must be raised, or otherwise it may in its progress pass over, instead of going under, the os uteri, if any part should remain in contact with the child's head. This mistake might be of the worst consequence; for a portion of that part might be included between the instrument and the child's head; in which case pain, inflammation, and even gangrene, might follow.

The only circumstance requiring our particular attention in the introduction of the second blade, besides guarding against the inclusion of the os uteri be-



tween the head and the instrument, is that it be introduced and applied in direct opposition to the first blade, and that of course it must be applied over the other ear, to be certainly right. That in uniting the two blades, great care be taken not to entangle any of the soft parts in the joint of the instrument. That the force employed in extracting the head, be always, and steadily, from blade to blade, but with intervals resembling the labour-pains, and constantly in the direction of the axis of the pelvis, till the occiput begins to emerge from under the arch of the pubis, when the handles are to be raised over the symphysis pubis with the right hand, while the left is applied to strengthen and preserve the perineum.

It it must be obvious, from the description formerly given, that when the forceps are introduced and applied, over the head of the child, this instrument be-



comes a lever of the first kind, the essence of which consists, in having the fulcrum between the resistance and the moving power; that as the joint of the instrument is the fulcrum, or centre of motion, the whole intensity of the moving power applied to the handles, must be received upon that part, and not upon any of the bones of the pelvis; the soft parts therefore cannot suffer any injurious pressure, let the difficulty be ever so considerable, the resistance ever so great, the force employed to overcome it ever so intense.

But that we may infallibly succeed in the introduction and right application of the forceps, and the ultimate extraction of the child's head, I will now remind my reader of a circumstance, in the form and position of the pelvis, and its relation to the vagina, which is so extremely important for us not only to know, but constantly to keep in view, during the



greater part, if not the whole performance of this operation, that, properly attending to it, we can never fail; neglecting it, we can never succeed.

The circumstance alluded to is, that the axis of the pelvis, or an imaginary straight line, proceeding through the middle of the upper aperture of the pelvis, would, if protracted, pass through the perinæum, very near the anus; and that the axis of the vagina and os externum, is very different from, if not directly opposite to, this imaginary line, crossing it nearly at right angles, and only extending to the middle of the os sacrum, as has been before observed in the first Essay. If then, in the introduction of the instrument, neglecting this, we attend only to the course of the vagina, the extremity of the blade will be directly pressed against the os sacrum; and, as the child's head is both much lengthened, and changed in the shape, by being thrown into a conical form; if the forceps be in-



roduced, and applied in that direction, they can embrace only a part of the head, or the apex of a smooth and slippery cone, and of course can have no hold or purchase, or power of extraction; and if there be any considerable resistance from the size of the head, they must ever slip, and the operator be baffled and disappointed. On the other hand, if the instrument be introduced in a direction nearly parallel with the axis of the pelvis, so that the points ascend into the upper aperture of the pelvis, they must pass beyond the basis of the cranium, which is likewise the basis of the cone; they must therefore necessarily embrace the bulk of the child's head within their grasp, and be in possession of the firmest hold, the most powerful purchase, that the nature of the case admits of. To be able to introduce them first into the vagina in this proper direction, and afterwards apply them upon the head, it is obvious that,



if we use the straight or common forceps, the perinœum must be pressed backwards, till the fourchette nearly reaches the anus; but that with the forceps which has the curvature given to the edges for this express purpose, and which is the instrument always used by me, and here recommended and delineated, it is not necessary to press back the perinœum so far by nearly an inch, and yet the instrument will preserve the requisite direction, and cannot fail, finally to inclose the basis of the cranium within the points. If this direction in the introduction, and application of the forceps be strictly observed, so that the points, ascending into the upper aperture of the pelvis, shall certainly reach beyond, and of course inclose, the basis of the cranium, with the whole head, within their grasp; the hold and purchase so obtained will infallibly not only insure the extraction of the head, but will likewise have the



further good effect, of equally securing the cerebrum from any dangerous compression by the instrument; for as the bones which form the basis of the skull are too solid to yield to any pressure which can be made by the points of the instrument, if they rest upon the mastoid process of each side, it must be obvious that the blades cannot by any power be brought so close, as to press upon the parietal bones in such a way as to prove injurious to the contents of the cranium.

The necessity of attending to the axis of the pelvis, in the introduction of the blades of the forceps, is so obvious, and so well understood in theory, and so demonstrable on the machine, that it should seem a work of supererogation even to mention it, much less to press it so close to the attention of the practitioner; but it is so very important, and so many instances have occurred



within my own knowledge, where it has been either forgotten, or not understood, or wholly neglected, that in my opinion it cannot be urged too strongly, or repeated too often. Besides, in many late authors, we find it a very general complaint, and a very strong objection to the use of the forceps, that they are very apt to slip, and disappoint the expectation of the practitioner. I have been induced to be thus particular in my directions relating to this point, and thus earnest in my recommendation of attending to them; because I am persuaded, that if strictly observed, the forceps never will or can slip; the operation must infallibly succeed; the child must be both safely and speedily extracted.

Before I conclude this subject, I will just beg leave to collect the result of the observations which, allowably in an Essay, may not have been either regularly or correctly arranged, and after a short



recapitulation of what I have advanced respecting the principles of the structure and action of the forceps, will compress into the smallest possible compass a few essential rules, for the manner of using them.

It is clear to demonstration, that the child's head remains in the cavity of the pelvis, either because it is too large, or the expulsive powers too weak; that the two great objects in contemplation, in the structure of this instrument, are, in the first instance, to lessen the volume of the head without injury to the child, and afterwards to substitute an extracting power, which may be used effectually, without injury to the mother.

To answer these ends, great nicety is requisite both in the shape and size of the instrument; that it may be safely and efficaciously adapted to the complicated form of the head, the pelvis, and the vagina; for which purpose an improved



pair is recommended, and, to save time and trouble in description, delineated in a plate annexed.

After innumerable alterations made in the form, during the progress of a century, by different persons, I adopted in my instrument the outline of Monsieur Levret's blade, with, however, some considerable variations in length, thickness, curvature, &c. by which, I think at least, the imperfections both of the straight and other curved forceps are corrected, and the instrument rendered more perfect. Dr. Smellie's joint could not be improved.

The rules to be observed in their use, as proposed above, are,

First, That the os externum should be so far dilated, and the perinœum so far pressed backwards, as that the blades may be readily introduced into the vagina, and passing in the direction of the axis of the pelvis to the brim, may cer-



tainly embrace the basis of the cranium, and the bulk of the head, within their grasp. This rule I pressed, and do again press upon my reader's attention, as essential to the complete success of the operation.

Secondly, That they be always applied over the ears of the child, that the features of the face may not be injured, and with the convex edge towards the face; expressly with the design, that in the descent and turn of the head, the convexity of the instrument be adapted to the concavity of the sacrum.

Thirdly, That in the introduction, the points of the blades be kept constantly in contact with the child's head, to guard against the possibility of including any portion of the os uteri within the instrument, or between it and the child's head.

Fourthly, That in extracting, the power employed be in the direction of the axis of the pelvis, till the occiput



emerges from under the arch of the pubis, and always from blade to blade, infallibly to prevent their slipping; and likewise that the handles should not be confined by any ligature, that the compression on the head may in some degree be removed every time we cease to act with the instrument.

Fifthly, That the whole operation should be done in the most cautious and deliberate manner; that the force employed should be at intervals, resembling the labour-pains, and should only be commensurate to the resistance, and therefore that at first it ought to be very moderate, increasing gradually, but only as it became necessary.

Lastly, and particularly, That the left hand should be carefully and constantly applied to the perinæum, from the instant the head begins to emerge from under the arch of the pubis, till it makes its final exit through the os externum, in



order effectually to preserve that part from laceration, or other injury.

Carefully attending to these rules, few in number, and therefore easy to remember, simple in principle and practice, and therefore easy to understand and perform, I must again repeat, that there cannot be an operation in our art more infallible in safety and efficacy both to mother and child, than delivery with the forceps: and no wonder, for it exactly preserves, or as exactly as the thing itself admits, that analogy to nature, in her own process of parturition, where her wisdom and contrivance are so obviously and strikingly conspicuous. It has been again and again observed, and with the repetition I will finish this part of the Essay, that the peculiar form and size of the female pelvis were intended, by compressing the bones of the child's head, in its passage through, to alter the shape, lessen the volume, change the position, direct the course, and ultimately



to facilitate its exit through the os externum, in the best and safest manner. The application of the forceps is meant to produce a continuation or an extension of these very effects, where, from physical imperfection, they become necessary, as far, or as exactly, as art can imitate nature: for it is well observed on a similar occasion, by Dr. Desaguliers, who was both a divine and a philosopher, and who thus expresses himself—“ *It is a curious contemplation, to consider what proportion is observed, in the animal body, as an engine, from which art only copies faintly.*” And directly on the same subject Mr. Maclauren observes, that “ *Art only imitates the wisdom of nature.*”

It must be self-evident, that if the expulsion of the child is prevented by the inability of the natural powers to effect those requisite changes described above, that the forceps, if properly applied, and of course possessed of the necessary hold



of the head, is admirably adapted to complete the wise and kind purpose of nature, in every instance; for whether the shape of the child's head requires alteration, or the volume lessening, or the position changing, or its progress through the pelvis requires to be forwarded, or its final exit facilitated, I cannot, even in imagination, conceive a contrivance more safe and perfect in all respects than this instrument; for, as before observed, let the difficulty be ever so considerable, and the force necessarily employed to overcome it be ever so great, as the joint of the instrument is the fulcrum, or centre of motion, the whole intensity of the moving power is received there, and no injurious pressure whatever can therefore be made upon the soft parts in the use of the forceps, or in the same degree of difficulty avoided in the use of the vectis.







## SECTION II.

IT seems extremely probable, that the vectis, or simple lever, was employed in laborious or difficult labours, before the more complicated lever, or forceps, was had recourse to in such cases ; for, comparing the situation of the child's head in the cavity of the pelvis, with difficulties of a similar nature which must have occurred to every man's observation, such as the removing impediments of great weight by the common lever, it was hardly possible not to apply such observations to the exactly similar situation of the child in the living woman, and to endeavour to effect that relief, by those very means, which were known to be effectual on inanimate matter. It is probable too, that the simple lever was discarded, and



the forceps substituted in its stead, either because it could not be used with efficacy in very difficult cases, without great injury to the woman, by making some one of the bones of the pelvis the fulcrum upon which the lever rested and acted; or because it was in such cases found utterly inadequate, to the delivery, by any means whatever. It is impossible to believe, that any man of common sense would discard the simpler, the easier, the safer, and the more effectual instrument, for one not so simple, so easy, so safe, or so efficacious. If, then, the vectis was first used in midwifery, and the forceps afterwards, the fact itself is a complete confirmation of the inability of the vectis, and superiority of the forceps.

But it is not my intention to inquire which instrument was first employed, or by whom first invented, in midwifery; if my readers wish for particular information on this subject, as far as relates to



the vectis, I beg leave to refer them to that chapter in Mr. Herbinieaux's book, entitled "*Histoire raisonnée du Levier de Roonhuyson, et de ses Usages.*"\* And if he is inquisitive after the discovery of the forceps, as well as the vectis, or the other several expedients which have been devised to assist in difficult labours, I beg to refer him to Dr. Bland's paper in the second volume of the Medical Communications, to whom we are much obliged for the pains he has taken to collect the best information on the subject.

The only object I have in contemplation by this inquiry, is to determine which instrument is safest and most efficacious, and most capable of affording effectual relief in the degree of difficulty now under consideration, with the least possible risk of injury either to mother or child.

\* *Traité sur divers Accouchemens Laborieux, &c.*  
par M. G. Herbinieaux, &c. à Bruxelles, 1782.



The forceps, which I have described and recommended in the preceding section of this Essay, as so admirably adapted to the nature of the difficulty which we are to encounter and overcome, and which so exactly, in its form and effect, preserves that analogy to nature in parturition, was no sooner known and promulgated in this country, than it was universally adopted over the greatest part of Europe, particularly in France, Germany, and Flanders; insomuch that Boehmer, a celebrated German professor, wrote a treatise entitled, “*De Præstantia Forcipis Anglicanæ.*” In Holland, however, another instrument was about the same time in great estimation and repute, the knowledge of which was confined to a few persons, and being used secretly, afforded them both great celebrity and profit. This instrument is now known to be the vectis, and has lately been imported from Holland, and introduced into prac-



tice and reputation in this metropolis. Although I professedly wave all historical inquiry concerning the invention, or early use either of the forceps or vectis, yet, as I mean to examine the comparative merit of both instruments, it will be necessary, in this discussion, to state somewhat at large and progressively, the arguments and opinions which have been published in its favour, either here or abroad; first by Van Swieten, and afterwards by Professor Camper, and Monsieur Herbiniaux, on the Continent; and lately in this country by Dr. Bland; and, much to my surprise and regret, by my old friend and colleague, Dr. Denman. At the same time premising, that it is the principle, and the principle only, either of the structure of the instrument, or its application to use, that I mean to consider and examine, and not the result of the practice of any person, and the representation of his own success: for however candid and honour-



able any man may be, and however scrupulously he may mean to adhere to truth in his relations, there must be a predilection in every man's mind for the instrument he himself uses; which will, unconsciously, dispose him to the most favourable description of its merits, and the entire concealment of its imperfections. If the principle of the instrument be good, the practice, properly performed, must be right; if the principle be bad, however it may be corrected by the peculiar skill and dexterity of an individual, the practice, in the general result, cannot be either safe or successful.

Having already described how exactly, in my opinion at least, the forceps preserved that analogy to the ways of nature in parturition, and how admirably adapted they are, in form and size, to insure the child's life, and relieve the mother, I will now candidly acknowledge the objections which have been



made to that instrument, and endeavour to remove them; and then state what are described to be the positive advantages of the vectis; lastly, comparing them with each other in their advantages and inconveniences, I will endeavour to demonstrate that decided preference of the forceps to the vectis, in all possible cases where the powers of a lever are required, and can be effectually employed; and then, making a few general observations, I will conclude this Essay.

The first objection to the forceps is, The difficulty of application in all cases, and the impossibility, from the position of the head, or want of room in the pelvis, of using them with safety in many, where the vectis may and ought to be used.

The second objection is, That, when the forceps are applied, they are apt to slip their hold, and thus the operator is often foiled.



Thirdly, That they are, by their general pressure on the child's head, liable to destroy its life.

Fourthly, That by increasing the volume they are apt to lacerate the perinæum, in the final exit of the child's head.

Fifthly, That, as they never can be used secretly, they have a tendency to excite unnecessary apprehensions of danger, and without reason to alarm, and intimidate the patient.

With respect to the first objection, I can only say, that difficulty or facility are relative terms, to which no two persons annex exactly the same idea. What may be extremely difficult for one person to perform, may be equally easy to another. Thus, to make use of an obvious but familiar illustration, how extremely difficult to perform upon any musical instrument at first, how very easy afterwards? or how difficult to one person, and



yet how easy to another? So in the use of  
 the forceps, however difficult the first  
 operation on the machine may be to the  
 student, if he understands the principle of  
 its use, and the anatomy of the parts,  
 nothing can be more easily acquired by  
 habit, or a repetition of the performance  
 upon the machine, than the application of  
 the forceps. Were they however much  
 more difficult in their use than they really  
 are, if in other respects they are a pre-  
 ferable instrument, if they are more safe  
 and more efficacious to the patient, the  
 difficulty to the operator ought to be dis-  
 regarded: the art of applying them is at-  
 tainable; and it is our indispensable duty,  
 by industry and exertion, to overcome  
 the difficulty, were it infinitely greater.  
 With respect to the impossibility of using  
 the forceps in many cases where they are  
 wanted, and where the vectis may and  
 can be employed, this objection can  
 only refer either to the position of the



head above the brim of the pelvis, or the supposed want of room to introduce the two blades, when the head fills the whole cavity of the pelvis; with relation to the first part, I have again and again reprobated every attempt to use any instrument while the head remains above the brim of the pelvis, by demonstrating, that it never can be proper or necessary in such a position; for that by the operation of time and patience, the two powerful agents of nature, the head must certainly, and safely descend into the cavity of the pelvis, when it will be without any risk, within the reach of the instrument, and long before, any danger can at all require or justify its use. I can therefore only repeat my opinion, that in no such case is either the use of the vectis or forceps admissible, because they never can be certainly safe; on the contrary, they may be very dangerous, and must generally prove unsuccessful. With re-



spect to the want of room to apply the second blade, I can only say that I am persuaded it is utterly impossible for the head so completely to fill the cavity of the pelvis, as not at any time readily to admit both blades.

The second objection is, That the forceps are apt to slip their hold, and thus disappoint the operator.—To this objection I beg leave to answer, that if they have been introduced according to the directions already given, and repeated on account of their importance, particularly if the points of the blades embrace any part of the basis of the cranium within their grasp, the hold is so firm, the purchase so great, that, extracting from blade to blade, but inclining the convex edge backwards, that the face may be turned into the hollow of the sacrum, they never can, for it is next to impossible they ever should slip.

The third objection is, That by their



general pressure they are more likely to injure and endanger the child.—Now, to my comprehension, the equable pressure of the two blades of the forceps upon each parietal bone, is in effect so analogous to the compression of the two ischia upon the same bones, in the natural descent of the head; and the form of the head, when delivered by the forceps, so exactly resembles the form after a long labour accomplished without instruments, that, independent of the fact that children are generally born alive with the forceps, there can be no doubt but that this general pressure is safer for the child than any partial pressure, however exactly made. It has been suggested by one partizan of the vectis, that while the forceps, pressing the head on each side, and thereby diminishing its bulk in that direction, they will increase it in the opposite, instead of which, it must be evident, from the conical form of the cavity of the in-



instrument, that it expressly preserves that every shape which nature disposes it to take, in order to facilitate its exit.

The fourth objection is, That the perinœum is more apt to be lacerated by the forceps than the vectis.—To which I beg leave to assure my readers, that never once in my life have I ever met with a laceration of the perinœum when I have made use of the forceps: but, independent of my assertion, I will, as I have at least intended all through this Essay, endeavour to prove upon principle, that there is very little likelihood of lacerating the perinœum with the forceps, because, when the apex of the child's head begins to insinuate itself into the os externum, and the perinœum is on the stretch, you are then at liberty to apply your left hand to strengthen and support that part, as well as to prevent the too sudden distension, while the right is applied to the handles of the instrument, with sufficient force



first to raise and then to extract the head. It will be seen by and by, that this part of the operation must be performed with the vectis very awkwardly, and with extreme difficulty and danger.

Fifthly, or lastly, That the instrument cannot be hidden, therefore when used that the patient's apprehensions will be alarmed, and her bodily powers of course impaired.—If they could be used secretly, I think they never ought: no operation should be attempted, without the consent of the patient and her friends. Such is the invariable practice even in hospitals in surgical operations, and such ought undoubtedly to be ours in midwifery;—but I shall dwell longer on this part of my subject by and by.

Having thus stated the objections to the forceps, and endeavoured to obviate them, I will now describe what are supposed to be the positive advantages of the vectis in preference to the forceps; and



as, in answering the objections to that instrument, I was obliged often to mention the vectis, so here, in describing the vectis, I shall be equally obliged to mention the forceps; for the advantages of the one instrument being meant to correct the inconveniences of the other, in order to estimate their comparative merit, there must be a constant reference to each other.

All the authors who have written in favour of the vectis agree, in praising its simplicity of structure, and its facility of application; while some consider the secrecy with which it may be used as a principal recommendation. Van Swieten, in his Commentaries on Boerhaave's Aphorisms, expressly says, "*Simplicissimum enim est instrumentum, parvæ molis, facile occultandum, ne parturienti et adstantes instrumentorum apparatusu terreantur.*" And he then adds, "*Unde dum latebat hoc arcanum, plu-*



“ rimi crediderunt Roonhuysianos obste-  
 “ tricantes, nullo instrumento uti, sed  
 “ peculiari, ipsis solis nota, encheiresi, dif-  
 “ ficiles illos partus, tam feliciter, et sæpe  
 “ paucorum minutorum spatio, absol-  
 “ vere.” Camper indeed speaks with some  
 hesitation and doubt in his Memoir ; but,  
 in conversation with him here, he declared  
 his high opinion of its facility of applica-  
 tion, and infallibility of success ; but I was  
 most unfortunately prevented from seeing  
 his comparative experiments of the two  
 instruments upon my machines. Mon-  
 sieur Herbinieaux’ book, in every page,  
 contains his decided opinion of its supe-  
 rior efficacy over the forceps, both re-  
 specting the facility of use to the ope-  
 rator, and safety both to mother and  
 child. Dr. Bland says, in the very out-  
 set of his paper, “ Being persuaded that  
 “ it may be employed with greater fa-  
 “ cility and advantage than the forceps,”  
 &c. And lastly, Dr. Denman expressly says



“ that the vectis, prudently used, is in  
 “ every case an equally safe and efficacious  
 “ instrument with the forceps, and a bet-  
 “ ter adapted instrument in many cases  
 “ which occur in practice.”

It is likewise particularly recom-  
 mended, because we can avail ourselves  
 of its powers when the head is above  
 the brim, or before it has begun to enter  
 the pelvis, or long before we can apply  
 the blades of the forceps. The use of the  
 vectis in this position of the child's head  
 constitutes, in the general opinion of its  
 advocates, one great merit of the instru-  
 ment; and, judging from the plates de-  
 scribing the situation of the head in M.  
 Herbinieaux' book, as well as by his po-  
 sitive declarations, it is the very position  
 in which, of all others, he chiefly uses it  
 himself, and particularly recommends it  
 to his readers.

There are other advantages of less im-  
 portance, and requiring only cursory



examination, such as the slighter pressure on the child's head from one blade only, instead of two, and consequently the less chance of injuring the contents, or of interrupting the due course of the labour, and preventing the natural change in the position of the head, or altering the shape from its natural form: and lastly, less difficulty in extracting the head, and less danger of lacerating the perinœum, by one blade than by two, because the volume must be less increased; all these, which are stated by the favourers of the vectis to be superior advantages, are in fact either so futile, as not even to require consideration or attention; or, on the other hand, are either unfounded, or manifestly false; and it will be found that the forceps absolutely possesses the very advantages attributed to the vectis.

The only advantages which are or can be pretended to belong to the vectis, as



worth attention, I will now particularly consider.

First, Its simplicity of structure.

Secondly, Its facility of application, in all cases, and at all times.

Thirdly, Its particular application and effect while the head remains above the brim of the pelvis, or before it has entered into, or at least before it is engaged in the cavity of the pelvis.

Fourthly, The greater probability of preserving the perinœum from laceration with the vectis, than with the forceps.

And, lastly, Its possible concealment from the knowledge either of the patient herself, or any of the attendants.

I will now examine more particularly the merit of the vectis, in all these different respects, and perhaps cursorily in some others.

The first positive advantage of the vectis, is the simplicity of structure; with respect to which I shall only say, that in



a complexity of difficulties, where a variety of objects are necessarily to be attended to, as in this very case, whoever expects perfection in the simplicity of means, expect what the nature of things does not admit, or what the ingenuity of the human mind cannot contrive. In a great and real difficulty, with the accompanying danger both to mother and child, such as requires and justifies the use of instruments, and where a variety of difficult and dangerous circumstances ought to be attended to and guarded against, lest while we avoid one, we may not incur another, it must be equally in vain to look for perfection in the simplicity of the means of art, as for facility in their application. In this case both are impossible; but it is our indispensable duty to correct the imperfections of simplicity by contrivance and address, and by industry and exertion to render facility useless. These observations, with those



already made on the supposed superior difficulty of using the forceps, are, I trust, a complete answer to the two first boasted advantages of the vectis.

The third advantage which it is stated so pre-eminently to possess over the forceps, is the possibility of our availing ourselves of the power of the lever, when the head lies above the brim, and (as it is supposed) cannot otherwise enter the pelvis. Now, either on principle or in practice, I cannot persuade myself, that under any circumstances whatever it can be right, because I am sure it never can be necessary, to use the vectis in that state of the labour; for if the labour-pains are in vigour, and there is no actual deformity in the upper aperture of the pelvis, so as to prevent the possibility of the entry of the child's head into it, it must at length be forced in, although perhaps with great difficulty, and in the accomplishment of which, the powers of nature may be



altogether exhausted. It must be allowed however, that any instrument can be more readily applied, and more safely used, in this position, than when the head lay above the brim ; for however it may be generally intended, in the use of the vectis, while one hand is the moving power, to make the other the fulcrum, yet, if the head lies very high, and the resistance be considerable, I defy the ingenuity of man, to apply sufficient force to the vectis to overcome that resistance, without making some part of the pelvis the fulcrum or centre of motion ; and what may be the extent of the injury produced by such pressure, it is impossible to say ; but that injury, and great injury, must be the inevitable consequence, nobody *a priori* can doubt ; and sad experience has confirmed the apprehensions, to my certain knowledge, in various instances.

The more candid favourers of the vectis (particularly Camper) admit this ob-



jection to the full extent; for he expressly says, “ Mais souvent l’urethre en  
 “ est fort endommagée, souvent le periné  
 “ se fend plus que dans l’accouchement  
 “ naturel, et que lorsqu’on se sert d’un  
 “ forceps quelconque.”\*

Monsieur Herbinieaux’ opinion of the superior merit of the vectis, as before observed, and as particularly demonstrated both by his plates, and his description, depends upon the practicability and expediency of using it, while the child’s head lies above the brim of the pelvis; or at least where the bulk has not entered, and little or no part has descended into the cavity, and of course where it cannot be within reach of the forceps. In this opinion Dr. Bland concurs. I have repeatedly said, that in such a position of the head, under no circumstances whatever, can we be justified by that necessity,

\* Memoires de l’Academie Royale de Chirurgie à Paris, Tom. XV. p. 225.



which can alone justify the use of instruments in any case, because no experience, no sagacity, no science, can certainly *a priori* determine, that the head will not, by the continued efforts of nature, be forced into the cavity of the pelvis, unless it be so deformed, or diminished in its upper aperture, as to render it physically impossible. If we therefore do employ the vectis in this case, I am persuaded we shall use it forty-nine times in fifty unnecessarily, and of course unwarrantably, because most dangerously.

It must be obvious, upon the most superficial knowledge of the vectis and its application, that if it is to be used when the head is high up, and out of reach of the finger, which should conduct the point to the mastoid process, or occiput, where it ought to rest, it must be at least very doubtful where it is first applied, and to what part, in the progress of the ope-



ration, it may slip; it may therefore do irreparable injury to the child: for it seems to me that no skill or science can command its operation when so remotely situated; and the event, in many cases which I have known, has by dreadful effects confirmed this opinion. With respect to the mother, from the inevitable pressure on the soft parts, I must repeat that the danger is still greater, and more certain; for it must be absolutely impossible to use the vectis in this situation of the head, without making some of the bones of the pelvis the fulcrum or centre of motion, however the hand, or a moveable fulcrum, may permit us to employ sufficient force to overcome a slight difficulty, or where the head is low down, and within reach.

The fourth positive advantage proposed by the use of the vectis is, that the perinæum will be less likely to be lacerated by this instrument than the forceps, be-



cause the natural shape of the head, and the manner in which it first presses against the perinœum, and then makes its final exit, are less altered by its application, than they must be by the forceps. Now, even admitting this representation to be correctly true, yet, as it must be obvious to common sense, that we cannot spare the left-hand to strengthen and support the perinœum, while it is the fulcrum for the vectis, the perinœum is, in my opinion, much more likely to be lacerated with this instrument than with the forceps, where the left hand is particularly required by the general rules for their use, to be kept constantly applied to the perinœum, for this express purpose; or if with the vectis, we cease to use the left hand as a fulcrum, and, preferring the preservation of the perinœum, apply it to that part, it must be evident to demonstration, that some of the bones of the pelvis must then



infallibly become the fulcrum, in which case we are only substituting one danger for another ; for unless the operator had three hands, it is absolutely impossible to avoid exposing the patient to one or other of these dangers, if he avails himself of the assistance of the vectis at this period of the labour; because, one hand must be the moving power, one ought to be the fulcrum, and one certainly should be constantly applied to the perinœum.

I am earnestly solicitous that my readers should be attentive to my objection to this supposed positive advantage ; for while I am writing this, I have had occasion to see a patient with the most shocking laceration, which many years ago was the consequence of this operation, performed by a man at that time in great practice, and in the constant habit of using the vectis.

The last advantage, as stated by the favourers of the vectis, is the possible con-



cealment of its use, which I will now consider.

As the secrecy with which the vectis may be used, and I believe, is generally used in this town, is considered by the favourers of this instrument as an additional recommendation to the simplicity of its structure, and the facility of its application, I will beg leave to state what are my insuperable objections to this particularly boasted advantage. In the first place, I am persuaded, that if concealment in the use of the means intended for relief in laborious or difficult labours be not permitted, but that the absolute necessity of such means be first established, and that every practitioner be obliged openly and avowedly to use them, we should never again hear or read of one person having used the vectis in eight hundred, and another in twelve hundred cases!\* Nor shall

\* See Van Swieten, Camper, and Herbinieaux.



we again hear or read of the great number of women which some practitioners are constantly boasting of having attended and delivered; for no man can attend a great number of women in labour, in the manner he ought, in the way nature demands, or a conscientious discharge of his duty requires. Nor do real difficulties occur so often as to render it possible to believe that any man's life could afford such numbers of difficult cases as are stated in the printed accounts from abroad.

As I feel thoroughly convinced of the propriety and necessity of a fair and candid avowal of the use of instruments in every case of midwifery where they are to be employed, so I must insist that their concealment cannot be justified by any proper motive. Such an open avowal implies a conviction in the practitioner's mind, of that irresistible necessity for their use that supersedes every other considera-



tion; it implies a consciousness of the rectitude of his conduct; and it implies a voluntary acceptance of the consequences of the operation, which ought to make part of his professional duty; and it clearly demonstrates, to the satisfaction of the patient and her friends, that no motive of convenience to himself could urge him to an operation which may prove ruinous to his own reputation and interest. Besides, not to insist upon that responsibility from the operator, is to deprive the patient of the best and surest security against a precipitate performance of the operation. If once the practitioner can rest assured, that, let the event of the case be ever so unsuccessful, the injurious effects of his operation will be buried in eternal oblivion, by blending the mischief arising from the indiscreet use of instruments, with the natural consequences of labour, he will certainly have nothing to weigh against the



tempting advantages of convenience or emolument to himself; but while he is shortening the duration of the most irksome part of his professional duty, the waiting upon a slow and lingering labour, he will flatter himself that by delivery he is doing an acceptable service to his patient, in shortening the duration of her sufferings.

Upon the whole, then, I think it must be evident, from the preceding representation of its positive advantages, that the facility with which the vectis may certainly be applied, and the secrecy with which it may be always used, inadmissible as in my opinion they both are, constitute the only advantages which the vectis can be even supposed to possess over the forceps.

But if this instrument be both easy in its application, and successful in its effect (as stated by its advocates), it is so, because in general it is used when not at all wanted,



or where the difficulty being small, very inconsiderable force is required to overcome it. This is demonstrable from the foreign accounts, as I shall prove by and by. The facility and concealment, therefore, with which the practitioner may avail himself of its services, instead of deserving to be considered as advantages, afford, in my opinion, strong objections to its use; for they offer an irresistible temptation to resort to it prematurely or unnecessarily; which if he ever does, the practitioner takes upon himself most unjustifiably, to make the future safety of his patient give way to his own convenience or accommodation, instead of making that safety the only object of his attention and care; than which, considering its importance, few things can be more inexcusable!

But if the difficulty be really such, as that the powers of nature are clearly and demonstrably unequal to its removal,



and we are inevitably compelled to resort to instruments, although in such a case, it has been already again and again demonstrated, that the forceps is indisputably both more safe and more efficacious, because more powerful than the vectis; yet, as a further confirmation, I must still beg leave to add a few observations upon the comparative merit of the two instruments, in both these respects.

It is so obvious to common sense, and observation, that in circumstances which can at all resemble the difficulties of parturition, for example, in the extraction of one inanimate body out of another, to effect which, we are compelled to resort to mechanical means; that the hold is so much more certain, the purchase so much greater, by a machine constructed upon the same principle with the forceps, than by the simple lever; that it is invariably employed, in



such cases, by every common workman; except, indeed, where the bended lever can be used, the power of which is irresistible, but which clearly and obviously never can be applied to the living body. The superior power, and consequent efficacy, then, of the forceps, in laborious or difficult labours, I trust are irrefragably established.

It remains only now to add a few words, again to demonstrate that the safety of the forceps, to mother and child, are equal to their efficacy or power, and much superior to the vectis in both. With respect to the child, not judging from the principle only, but from a variety of facts, I am satisfied, that if any considerable force be used by the vectis, however properly fixed at first, it will be very apt to slip its hold, and change its position; and then it will, or may be, applied to parts not capable of bearing the necessary pressure as the mastoid



process, or the occipital bone can, without injury; and the most dreadful mischief may ensue, to different features of the child's face, of which there have been innumerable instances. I am likewise disposed to believe, that the contents of the head are more likely to be injured by the partial pressure of the vectis, than the general pressure on the two parietal bones by the forceps; but of this I must acknowledge no proofs are in my possession.

With respect to the superior safety to the mother, the two instruments, in my opinion, will scarcely bear comparison, since the forceps must be to demonstration so incomparably safer in its use; for if the difficulty be considerable, the force required to remove it must be at least commensurate to the resistance, and such as cannot be effectually employed by the vectis resting upon the hand as a moveable fulcrum.



From the printed accounts indeed, it is evident that some one or other of the bones of the pelvis, whether intentionally or not, is generally, and must, in fact, be made the fulcrum; in which case, the soft parts will of course suffer most painful and injurious pressure. But with the forceps no such pressure can happen, the joint of the instrument being constantly the fulcrum, or centre of motion of each blade, and of course receiving the whole intensity of the pressure, both from the moving power, and the resisting weight, be it ever so considerable, or ever so long continued; or, in other words, with the vectis, if there be real difficulty, it is next to impossible, to prevent much mischief to the soft parts within the vagina, from the pressure, and with the forceps, it is utterly impossible to do them any mischief at all, by the pressure.

Having so immediately described the



probable safety to the perinœum in the use of the forceps, from the assistance of the left hand in strengthening that part, at all times of its greatest extension, and greatest danger, and having demonstrated the absolute impossibility of availing ourselves of that support with the vectis, without incurring other and even greater dangers, it becomes now unnecessary to repeat the assertion or proofs, that in this respect the forceps must be decidedly preferable to the vectis.

I have asserted above, that the representation of the success of the vectis, in such prodigious numbers of patients, incontestibly proved, that it was used in general, unnecessarily, and prematurely, I will now endeavour to support the assertion, by proofs from the accounts published by the favourers of the vectis themselves. The strongest possible presumption is founded on the numbers alone ; for it is well known to all practitioners, that



such difficulties as really require instruments of any kind occur so seldom, that no one man's practice can afford such numbers as either Monsieur Le Bruyn or Monsieur Waroquier, and some others, have been stated to use the vectis in, particularly Monsieur Waroquier, who in the French Memoirs is expressly said to have used a vectis, of his own invention, from a thousand to twelve hundred times: " Il s'est servi de son levier avec  
 " un succes constant, sur plus de mille  
 " à douze cent femmes, dans les accouchemens laborieux, &c."

Monsieur Herbinieaux describes twenty-nine different cases, where he uses his vectis. He might, in my opinion, as well make ninety-nine, or even nine hundred cases, for they must be all resolvable into the disproportionate volume of the child's head to the capacity of the mother's pelvis; therefore, the slight distinctions which he makes, merely in the position of



the head, and that commonly, when the bulk rests above the brim (as distinctly shewn by his plates), demonstrate, to my conviction, that he perpetually uses the instrument either altogether without necessity, or at least prematurely.

One observation of Mons. Titsingh's in his letter to Monsieur Herbinieaux, likewise proves the same needless and precipitate use of the instrument; for, in his description of the manner of applying the vectis, in order to correct a gross mistake of Camper, respecting the application of it, which Camper had advised should be to the lower maxillary bone, instead of the mastoid process, he says, “ dans cette espece d'accouchement, *ou la tete est enclavée*,—il peut arriver que la tete, soit si pressé, contre l'os pubis, que le levier, n'avance pas aisement. Alors, *je la degage un peu avec les deux doigts*,” &c. The possibility of disengaging the head, by the



assistance of two fingers, demonstrably proves, that the head could not be *en-clavée*, and that the difficulty could not yet require instruments to remove it, and therefore that the vectis was used, in all those cases, both inconsiderately and unnecessarily.

As a concluding and indisputable proof, that the vectis is likewise used here without necessity, and of consequence most dangerously, I will describe an accident, which happened to a gentleman possessed of as much knowledge, skill, and experience, as any man who ever used the vectis. Having applied this instrument (which for conveniency was made with a joint between the handle and blade), while the bulk of the head must have been above the brim of the pelvis, in using considerable force, the vectis gave way at the joint, and the blade was left in the uterus so high, that he could not reach to extract it; and it



was afterwards expelled with the head, by the effect of the labour-pains only.

The event of this accident demonstrably proves, *a fortiori*, that here no instrument could have been originally necessary, either on account of the largeness of the child's head, or smallness of the pelvis; for the head was ultimately expelled by the labour-pains alone, notwithstanding the additional volume of the vectis, and without the possibility of any artificial assistance.

From the preceding representation of the principles of the forceps, from the answers to the objections brought against that instrument, and especially by the description of the vectis, and my objection to the supposed positive advantages, as stated by the advocates, I trust that I have completely established that preference for the forceps, to which they are entitled by their superior merit, and



their long and successful services, which was the principal object of this Essay.

Having occasionally mentioned the different authors who have appeared as advocates for the vectis, and having, in the Preface to these Essays, stated my reasons why I considered myself particularly called upon to examine Dr. Denman's account of the vectis, I will now beg leave to consider the most objectionable positions in the Second Part of his Essay on Difficult Labours, where, either in express terms, or by intended implication, he decidedly, prefers the vectis to the forceps.

But as I have the misfortune to differ *toto cælo* in opinion from the Doctor, in almost all his positions (instead of being implicated in them), and am anxiously solicitous to prevent the effect which the reputation, that my old friend has deservedly acquired, as a practitioner, an author,



and a teacher, might have, in promoting the general and (I think) mischievous use of the vectis in this country, I will first state the most erroneous and objectionable positions in his Essay, and in his own words, to avoid the possibility of mistake, and then endeavour to prevent their influence both by arguments and facts.

In the discussion of the two following questions, Dr. Denman thinks, that “ the  
“ comparison between the instruments  
“ may be brought to a fair issue.”

First, he asks, “ Is it possible to deliver a  
“ woman safely with the forceps, in any  
“ case not manageable with the vectis?”

Secondly, “ Is it possible to deliver a  
“ woman safely with the vectis, in any  
“ case not manageable with the for-  
“ ceps?”

In the discussion of the first question, the Doctor says, “ he does not recollect  
“ that those who have preferred the for-



“ ceps, have even asserted, that they could  
 “ deliver a woman with that instrument,  
 “ in any case of difficulty not manageable  
 “ with the vectis ;” and says, “ As far as my  
 “ experience enables me to judge, such a  
 “ claim, in favour of the forceps, could not  
 “ be supported ;” and then adds, “ I have  
 “ not heard of any case, in which, after  
 “ being foiled with the vectis, the operator  
 “ was able to succeed with the forceps.”

Although many such decided cases are not likely to occur in practice, because very few men use both instruments, either occasionally or indiscriminately, but preferring generally, one or the other, if they do not succeed with that instrument they are in the habit of using, they immediately have recourse to the perforator and crotchet ; yet one such case has lately occurred, and in most unexceptionable hands, both for skill and experience, and which I have Dr. Combe’s permission to state, in his own words.



## CASE.

“ A PATIENT was lately received into our (Brownlow-street) hospital. About half an hour after her admission, the pains becoming strong, the matron examined, and found the head of the child considerably advanced in the pelvis. About twenty minutes afterwards, the waters broke, and the head seemed to have nearly completely entered the pelvis, and she expected the labour would be soon over; but after waiting near nine hours, and finding the head not in the least moved, though the pains had been very strong, she sent for us.

“ Mr. Simmons, whose month it was, imagined (the head being so far advanced) that he should soon be able to finish the labour by the vectis; but after trying for some time, endeavouring to

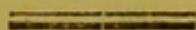


assist at every pain, without effect, he desired me to try; which, after having carefully examined the situation of the head, and state of the pelvis, I did, without being able to effect the least advantage: but, from the situation of the head, the impracticability to move it by the vectis, and knowing the obtuse processes of the ischium to be at a tolerable distance from each other, I formed an idea that the impediment arose from the acute processes being too long, and turning too much inwardly; in which case the forceps, I thought would answer better, as they would relieve from both processes; whereas the vectis must press against one, and probably increase the difficulty.

“ Mr. Simmons, approving of this, accordingly used the forceps. The head seemed presently, though very slowly, to give way: the woman was delivered in less than forty minutes; and she, with



her child, went out well at the usual time."



The event of this case on the living subject, is a direct answer to the Doctor's first question, and a complete confirmation of my opinion, repeatedly urged in the course of this Essay, that in real and great difficulties, where much force is required, the power of the vectis is and must ever be insufficient, unless by such violent exertions, as would be attended with extreme danger both to mother and child; and which the caution, the judgment, and the skill, of the gentlemen concerned in this case, clearly prevented.

For the same reason, and upon the same principle of caution, I have never in one instance, been able to succeed with a single blade of the forceps, though I have invariably tried to use it as a vectis be-



fore I introduced the second ; but never attempting to use instruments, except in cases of extreme difficulty, and then making a hand only the fulcrum, I never could exert sufficient force to overcome the resistance ; and I have always been deterred from making any of the bones of the pelvis the fulcrum, from the never failing complaints from the patient of present pain, and my own dread of future mischief, from the pressure of the instrument upon the soft parts.

Indeed, I had long been satisfied of the inefficacy of the powers of the vectis, and the superior powers of the forceps, by innumerable experiments made, in every possible position, on the machines ; which, *quoad hoc*, or respecting the difficulties to be removed, are real nature, to all useful intents and purposes, as much nature, as living women, for they are constructed with a real pelvis. The impediments, there-



fore, to the descent and final exit of the child's head, must depend on the same cause,—the disproportion between the volume of the child's head, and the capacity of the mother's pelvis; and the mechanical powers, by which alone the impediments can be removed, must be applied in the same way; and, acting on the same principle, must produce exactly the same mechanical effect, as on the living subject.

Dr. Denman's second question, with his observations and opinions, are altogether so very exceptionable, that I will first beg leave to state them in his own words, and then consider their effect, in the most important particulars.

“ With respect to the second question,” (says the Doctor) “ we will take the facts, and relinquish the arguments, used by those who have preferred the vectis to the forceps; which I allow sometimes to have been extra-



“vagrant. If any confidence is to be  
 “placed in medical reports, it appears  
 “that many cases have occurred, in which,  
 “after the introduction of the first blade  
 “of the forceps, it has been extremely  
 “difficult, or impossible, without the ha-  
 “zard of mischief, to introduce the se-  
 “cond blade; and the operation has been  
 “performed with the single blade, used as  
 “a vectis. Of this I have known and  
 “been informed of several instances. It  
 “appears also, that before the head of  
 “the child has been so low down as was  
 “stated to be eligible for using the for-  
 “ceps, that the vectis has sometimes been  
 “readily applied, and safely and effec-  
 “tually used, when the necessity of some  
 “particular case required it. When the  
 “head of a child has been locked in the  
 “pelvis, the same necessity existing,  
 “when there was not space sufficient to  
 “admit the two blades, or more force,  
 “perhaps, been required than the forceps



“ enabled us to exert, and we should  
 “ otherwise have been compelled to lessen  
 “ the head, it has been feasible to apply  
 “ the vectis, and the patient has been  
 “ safely delivered, with a probable chance  
 “ of preserving the life of the child.  
 “ Moreover, in all the deviations from  
 “ that position of the head, which is most  
 “ natural, as when it is turned with the  
 “ face towards the pubes, or when the  
 “ face presents, in which it is allowed  
 “ that the forceps cannot be used with  
 “ advantage or certainty; in all such  
 “ cases, the vectis may be applied and  
 “ used both with safety and efficacy.  
 “ From this statement, it may be pre-  
 “ sumed, that the vectis, prudently used,  
 “ is, in every case, an equally safe and  
 “ efficacious instrument with the forceps,  
 “ and a better adapted instrument in  
 “ many cases which occur in practice.”

This whole quotation contains so many  
 exceptionable positions, either direct or



implied, and some so absolutely unfounded, which ought first to have been irrefragably established, that I must particularly intreat the attention of the reader to their consideration.

Dr. Denman begins by saying, “ With  
 “ respect to the second question, we will  
 “ take the facts, and relinquish the argu-  
 “ ment,” &c. Now it seems indeed, that  
 my old friend has really relinquished the  
 argument, but he has likewise forgotten  
 the facts; for with regard to “ medi-  
 “ cal reports,” &c. where it has been  
 stated that “ many cases have occurred,  
 “ in which, after the introduction of the  
 “ first blade of the forceps, it has been ex-  
 “ tremely difficult, or impossible, with-  
 “ out hazard of mischief, to introduce the  
 “ second blade, and the operation has  
 “ been performed with a single blade,  
 “ used as a vectis; of which,” the Doc-  
 tor adds, “ I have known, and been in-  
 “ formed, of many instances;” if Dr.



Denman considers these hearsay evidences, or mere references to medical reports, as facts, upon which the propriety of a great innovation in practice is to rest, and an old established instrument to be discredited, and that in direct opposition to irrefragable principles, and long experience, I must beg leave, in the strongest terms, to deny my assent to the conclusions.

The most objectionable positions, either directly advanced, or fairly implied, although not expressed with logical precision in the above quotation, may be thus collected and arranged.

First, “ That the vectis may be applied  
 “ before the head of the child has been  
 “ so low down, as was stated to be eligible for the forceps:” or,

Secondly, “ When the head of the  
 “ child has been locked in the pelvis, and  
 “ there was not space to admit the two  
 “ blades of the forceps:” or,



Thirdly, “*Where more force has been required, than the forceps enabled us to exert:*” &c. or,

Fourthly, “When the face of the child is turned towards the pubes, or when the face presents; in which it is allowed,” the Doctor says, “that the forceps cannot be used with advantage or certainty; and in all such cases, the vectis may be applied and used with safety and efficacy.”

I must take the liberty of making some observations on every one of these positions.

To the first, I beg to apply the whole tenor of the principles meant to be established by this Essay, of never using either forceps or vectis, till the last necessity calls for them; and which necessity I hope I have proved, past contradiction, cannot exist, till the head is within the safe and certain reach of the forceps.

To the second position I beg to say,



that, in my opinion at least, it is impossible in any case, that the head can so completely fill the whole irregular cavity of the pelvis, as that there should not be space sufficient to admit the two blades of the forceps; my imagination cannot go to such a case: for as all the bones of the child's head are united only by membranes, which must yield to continued pressure (and indeed the head seems thus constructed by nature, expressly for that very purpose): so, considering the small size of a blade of the forceps, I again declare, that it can meet with no absolute impediment to its admission: for it is obvious, that the child's head must be farther lessened in its volume by some means, or it otherwise cannot be born; and by what other, or more admissible means, can the diminution be effected, and the head extracted?

The next position, “ That more force



“ perhaps has been required, than the  
 “ forceps enabled us to exert,” is infinitely  
 more objectionable; for it clearly im-  
 plies, that we can safely exert more force  
 with the vectis, than with the forceps;  
 than which, no practical position can  
 be more wrong, or more dangerous:  
 “ and in such cases,” the Doctor most  
 unaccountably adds, “ it has been feasible  
 “ to apply the vectis, and the patient has  
 “ been safely delivered, with a probable  
 “ chance of saving the life of the child,  
 “ where we should otherwise have been  
 “ compelled to lessen the head.”

The last position is, “ That it is al-  
 “ lowed the forceps cannot be applied  
 “ in face presentations with advantage  
 “ and certainty, and that the vectis can  
 “ with safety and efficacy.”

I am extremely concerned that I feel  
 myself compelled to deny the propriety  
 or validity of every one of these posi-  
 tions. I again deny that the vectis



ever ought, because it never can be used with safety, when the child's head is not sufficiently low to admit the forceps. I deny that there ever can possibly exist such a complete filling up of the cavity of the pelvis, as to prevent the admission of the two blades of the forceps. I deny, most positively and peremptorily, that more force can be safely used by the vectis than the forceps. I deny that "when the face presents, or "is turned towards the pubes, the forceps cannot be used with advantage or "certainty, and that the vectis can with "safety and efficacy." And lastly, I deny that a patient can be safely delivered with the vectis, with a probable chance of saving the life of the child, when the forceps has failed, and when we should otherwise have been compelled to open the child's head: what my old friend therefore says may have been feasible, I absolutely deny to be possible.



Doctor Denman then adds, and concludes—“ *From this statement, it may be*  
“ *presumed, that the vectis, prudently used,*  
“ *is, in every case, an equally safe and*  
“ *efficacious instrument with the forceps,*  
“ *and a better adapted instrument in many*  
“ *cases which occur in practice.*” To which I beg leave to answer, that the vectis, however prudently used, *is in no case either equally safe, or equally efficacious, as the forceps; and in no possible case, where the instrument can be required, or ought to be used, is it so well adapted, either to be applied with safety, or to extract the head with certainty.*

But it is evident, from various other opinions, which I will now examine, that my old friend has not yet bestowed sufficient consideration on the subject of the vectis, either relating to the structure, or the principles of the instrument, or the manner of applying and of using it; but especially that he does not seem at all



aware of what may be the probable and dangerous consequences of its general introduction into practice. If, in the first place, he had considered the structure, or its principle of action, it is impossible that he could have expressed himself thus erroneously or unintelligibly.—“ If, together with the power  
 “ of the lever, we aim at acquiring much  
 “ extracting force, the curvature should  
 “ be somewhat increased; because the  
 “ two centres, on which the force used  
 “ would rest, would be at those parts  
 “ of the head, on which the instrument  
 “ might bear, and the part on which  
 “ it would rest, whether the sides of the  
 “ pelvis, or the hand of the operator.”

For, independent of the obscurity of this passage, respecting the two centres, it will be presently seen, what must be the obvious consequence of increasing the curvature, and of course pressing with greater force on the part of the child,



where the point must rest and act, especially if applied according to his own directions.

Dr. Denman is then pleased to express his approbation of an instrument invented by the late Dr. Aitkin, of Edinburgh, and whimsically called by him, *the living lever*; contrived for the very purpose of rendering the introduction more easy, and for preventing the inconveniences which might arise from the difference of curvature; and Dr. Denman says, there is *infinite ingenuity* in the contrivance. Now, in my opinion, there never was a more trifling or more nonsensical thing invented;—a complicated piece of machinery, intended to render that more easy, which is already too easy; and which is, nevertheless, utterly inadequate in the means to the purposed end:—a bawble for a child to play with, and only to be equalled by the philosophical inventions at Laputa. Dr. Denman must



have been fascinated with the mere word, or had a most undue predilection for the vectis, or he could not have given Dr. Aitkin any credit for the invention of such a foolish thing.

Secondly, If he had bestowed sufficient consideration on the manner of applying and using the vectis, he would not have exactly adopted Camper's improper and unsafe method, as expressed in the following description: " Il passera, alors  
 " l'oreille, et se posera à coté du col, et  
 " *avec le but vers le menton,*" &c. &c. Which directions of Camper, Herbinieaux and Titsingh had first reprobated, and then corrected, long before Dr. Denman's publication, who nevertheless directs its application, precisely in the same words.

" Then advancing the instrument, as if  
 " it was a blade of the forceps, carry it  
 " on till, according to your judgment, the  
 " extremity of the blade may reach as far,  
 " *or a very little beyond, the chin of the*



“ child; when the line of the head, on  
 “ which the instrument rests, will be in  
 “ a straight direction from the vertex,  
 “ over the ear, to the chin of the child;  
 “ and this is *the most favourable position*  
 “ *in which it can be placed.*”

By these directions, I am warranted in  
 asserting that my old friend had not be-  
 stowed sufficient attention on the man-  
 ner of applying the vectis; and I am like-  
 wise persuaded, he never can have once  
 used it on the living subject; his know-  
 ledge and caution would never have per-  
 mitted him to avail himself of the powers  
 of this instrument so applied.

Titsingh, after declaring in direct terms  
 that Camper had misunderstood him,  
 strongly expresses his objection to this  
 very position of the instrument, by asking  
 the following question, “ Combien n’en  
 “ verroit-on pas de blessées dangereuse-  
 “ ment, si le levier se plaçoit sur la ma-  
 “ choire inferieure, et si toute la force,



“ nécessaire pour degager une tete en-  
 “ clavée, portoit sur un petit os si mince,  
 “ si tendre, si mobile?”

This question of Titsingh's describes in strong terms the objections to the method recommended by Camper, and adopted by Dr. Denman, and exactly confirms my assertion, that he never could have applied the instrument in the manner he directs it to be used. Titsingh had before expressly stated, in the same letter to M. Herbinieaux, how it should be applied, and what ought to be the position of the vectis, viz. “ Mon  
 “ levier est obliquement placé sur la tete  
 “ ayant son extrémité a coté de l'os occi-  
 “ pital, aux environs de l'apophyse mas-  
 “ toide,” &c.

Herbinieaux and Dr. Bland, both judiciously insist upon this very position of the instrument, as essentially necessary for the safety of the child.

But lastly, with respect to the pro-



bable consequences which may result from the introduction of the vectis into common practice, instead of the forceps, and which Dr. Denman's inconsiderate, but favourable representation is demonstrably intended to promote, I am persuaded, were it generally to prevail, the consequence would be extremely injurious to lying-in women in the humbler situations of life; for, admitting the safety of the vectis in the hands of cautious, skilful, and experienced men, who, acting conscientiously in the discharge of their duty, will not be tempted, for their own convenience to resort to its use, however easily or secretly it may be done, without necessity, and deliberation; yet, to men of a different description, and among patients in the lower class of women, the temptation to its frequent, unnecessary, and dangerous use, will be irresistible; for the duration of the attendance upon a slow and lingering labour (the most



irksome part of our professional duty), may, by it, be always shortened: and, as at the same time, and by the same means, the patient's immediate sufferings will be both lessened and shortened, the practitioner, by an easy and obvious fallacy, will find little difficulty to persuade himself, that what he really does for his own convenience, is intended for his patient's benefit. Besides, he knows that if any untoward consequence should ensue from his unskilful, but concealed conduct, it will be attributed to the original difficulty and danger of the case, and the real cause of the mischief be forever hidden. What motive, sufficiently strong, can there be then, to restrain such a man from a practice so convenient to himself, but so dangerous to his patient?

Now it is obviously impossible to conceal the use of the forceps, which is an infallible security against any man's avail-



ing himself of their assistance unnecessarily or precipitately: for although women possess as much fortitude in danger, as patience under pain, and in general cheerfully submit to any indispensable operation, they must be first convinced of the necessity of such operation, before they will acquiesce; but the vectis may be, and I believe generally is used, without the knowledge or consent of the patient, and therefore must want that infallible security which the forceps possess. Were there no other advantage belonging to the forceps than this alone, it would, in my opinion, decidedly determine the preference. I therefore again repeat, that Dr. Denman could not have been aware of the probable consequences of introducing the vectis into general use, and I must likewise believe that he has forgotten the many unhappy effects of the vectis, which formerly came to our mutual knowledge, even in the hands of very ex-



perienced and skilful men, or I trust he never would have encouraged its use by saying, so incautiously and unfoundedly, “ *that the vectis is, in all cases, equally safe* “ *and efficacious with the forceps, and a* “ *better adapted instrument in many cases* “ *which occur in practice.*”

I do not feel myself at all disposed to make any apology for the freedom of these remarks ; my motives are very superior to what can take place in my mind from former habits of intimacy, or even of friendship. I think Dr. Denman’s opinions altogether unfounded in principle, and unsupported by argument ; and that, if generally adopted in practice, they may prove extremely injurious ; and I feel it my bounden duty, to do all in my power to prevent their influence. I trust to the good sense and candour of my old friend, that he will upon re-consideration of the subject, and more deliberate reflection, either alto-



gether retract, or at least correct his objectionable opinions ; and soften his expressions of approbation ; or, by better and stronger reasons, induce me to correct my errors ; for if he is right, I must be most inexcusably wrong.

While, by the preceding comparison of the effect of the two instruments, and the undoubted preference of the forceps, I have to the best of my abilities endeavoured to promote the cause of humanity, and rescue the sex from irretrievable mischief, I am persuaded that I am likewise rendering essential service to the general interest of the profession, by endeavouring to prevent the substitution of the vectis for the forceps, and of course the frequent, unnecessary, and precipitate use of that instrument. If an opinion should once prevail among women, that practitioners in midwifery ever permitted themselves to depart from that safe, patient, and wise conduct, which nature directs in the



management of labour ; and that, for their own convenience, and without necessity, they should dare officiously to obtrude their pretended assistance (or, in their own language, to hurry the labour), and it should be discovered by the marks of the instrument on the child after birth, or by the unusual painfulness of their present feelings in delivery, or by future effects still more injurious, and lasting, that an instrument had been used, without conviction of the necessity, without their own consent, and even during the full operation of the labour-pains, with every reasonable expectation of the final, and safe termination of the labour by the powers of nature only ; I say, if ever such an opinion should become general, I am persuaded the inevitable consequence would be, that the practice of midwifery, in ordinary cases, would again revert into the hands of female practitioners, much to the injury of the sex,



and equally to the injury of the interest of the profession. And I beg leave to add, that these are not imaginary apprehensions, but founded upon facts which have come to my knowledge, where the mischiefs described have really happened, by the immediate use of the vectis, even in experienced and skilful hands, and have produced these very effects on the minds of the patients and their friends; and, as far as the influence could extend, have proved highly injurious to the reputation and interests of the particular practitioner, as well as of the profession in general.

To conclude,—I think, before an old instrument, constructed upon the clearest principles of science, and in exact conformity to the analogy of nature, should be discredited, and before an old established practice with such an instrument, should be abandoned, which has stood the test of an hundred years experience, and



which, during so long a period, has been successfully followed by all the practitioners of this country; and before a new-fangled instrument, not comparable in safety or efficacy, should be introduced in its stead, and a new and foreign doctrine substituted for the old, the strongest and most irrefragable arguments, both against the former principles and practice, ought to be adduced, and innumerable well-attested facts of inefficacy and danger, brought in confirmation; neither of which have yet been done, at least to my conviction; I shall therefore continue (during the short remnant of my professional life) to hold the same opinion, to teach the same doctrine, and pursue the same practice, which I have invariably done for five and thirty years past; unless far different, and more powerful reasons, are offered to my understanding, than can be collected from the works of Van Swieten, Camper, or even M. Herbinieaux; or than



those which have been suggested by Dr. Bland, in his paper in the Medical Communications ; or by Dr. Denman, in his Essay on Difficult Labours, before I will subscribe to Dr. Bland's "parallel," or Dr. Denman's "conclusion."

I will only beg leave to assure my readers, that I entertain no capricious prejudices, against the vectis ; I envy no man the reputation or profit he may acquire from its use : I can have no vanity to gratify, by defending an old instrument ; and, least of all, have I any interest in view, to warp my opinion, or to induce me to write these Essays ; for it is very well known my professional life draws very near its conclusion, nor in all probability can the conclusion to my natural life be very remote. Nothing but a thorough conviction of the truth and importance of the opinions contained in these sheets, would have urged me thus to fulfil what may probably be my last professional duty to the public.



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ESSAY V.

*On* LABORIOUS *or* DIFFICULT LABOURS,  
*requiring the* CHILD'S HEAD TO BE  
LESSENERD.

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SECTION I.

I HAVE, in the preceding Essays, already endeavoured to explain why the volume of the child naturally bears such an exact proportion to the capacity of the pelvis, as that it can never enter, and pass through that cavity, without considerable pain, and some difficulty; and if by any means that due relation is interrupted, delay and danger must attend parturition to an endless variety of degrees.



To prevent or remedy the present inconveniences, and future ill consequences, arising from the inferior degrees of disproportion, the head of the human foetus, it is well known, is incompletely ossified at birth; nature having, with admirable wisdom, by means of sutures and fontanelles, so constructed it, that, in the passage through the pelvis, it may suffer the form to be altered, and the volume to be considerably diminished, without such injury to its contents, as shall necessarily destroy life. Yet as there is one volume, beyond which the foetal head cannot suffer compression with safety, so there is another, and still smaller volume, into which it cannot be compressed at all; unless it be first opened, the contents discharged, and the bones by that means be permitted to collapse.

Whenever the pelvis is so distorted in its form, and so contracted in its capacity, as not to permit the head of the



child to pass unopened, it constitutes that degree of laborious parturition, which I mean now particularly to consider. Having already, in the former Essays, considered the inferior degrees of difficulty, where either in the first instance, the powers of nature, though slowly, and with great and continued exertions, are yet ultimately equal to the accomplishment of the delivery; and the next degree, which requires the assistance of the forceps, or vectis, by which the life of the child is capable of being preserved; I will now endeavour to ascertain, as accurately as the nature of the case renders practicable.

First, What are the absolute dimensions of the pelvis, which in all cases must inevitably require the head of the child to be opened, and its volume to be lessened; or where, if ever, either the Cæsarian operation, or the division of the symphysis pubis, must be performed.



Secondly, I will endeavour to ascertain, with the same degree of accuracy, founded upon principle, determinable by mensuration, and confirmed by some remarkable cases, what are the smallest dimensions of the pelvis through which a child can be extracted with a crotchet, when the head is thus opened, the contents discharged, and the bones collapsed.

The first, with a view to induce an early commencement of this operation, when necessary ; for upon that altogether depends the facility, and, in a great degree, even the safety of the subsequent delivery.

The second, with the intention of preventing the unnecessary performance of the Cæsarian operation ; but most especially, and in all cases, to prevent the division of the symphysis pubis.

Though we can readily determine, by the introduction of the fingers into the vagina, what are the absolute dimensions



of the pelvis, yet the relation between these dimensions and the volume of the child's head, is not determinable with geometrical precision; as there is a considerable variety in the size of the human foetus, and it is impossible to know the exact size of any head while it remains in the uterus. Further; one head may perhaps, by its original construction, be able to bear compression better, or with less injury to the contents, than another head: various other circumstances too, which cannot be known, probably sometimes make a considerable difference; at least, it is an undoubted fact, confirmed by daily observation, that some children come alive into the world, while others are still-born; and yet the circumstances of the labour, and, as far as we are able to judge, the structure both of mother and child, shall be apparently the same.

Notwithstanding all these varieties,



notwithstanding the utter impossibility of arriving at absolute precision, yet we are certainly in possession of the means of determining, with every degree of exactness necessary to direct our future practice, in the safest and best manner. These means may be reduced to one point, determinable by mensuration; which is the more necessary, as I know of no author, even among the latest and best writers on this subject, who has yet done it with sufficient accuracy and decision. All their expressions concerning the dimensions of the pelvis, and the consequent practice, are so vague, that they leave each reader to his own interpretation, either to determine the one, or direct the other.\*

The weight of a new-born child, at full time, varies from rather less than six, to ten, and even at other times, to twelve

\* See Smellie, Levret, Saxtorph, Roederer, &c.



pounds ; the size of the first being small, of the last unusually large.\* The head of the child, the only part we are interested about on this occasion, of course varies in equal proportion. By innumerable experiments accurately made, and I know faithfully related, because repeated by myself, the small diameter of a child's head, or that which passes from one parietal bone to the other, measures at birth, from three inches and a half,† to upwards of four inches. One may therefore venture to pronounce, that the foetal head, at full maturity, cannot bear compression to a volume much smaller than three inches, from one parietal bone to the other, consistently with safety to the child's life. Through a pelvis, which has its cavity naturally so contracted, or

\* See Roederer's *Opuscula*, Vol. I. p. 32. *Dissert. de Temporum, in Graviditate et Partu, Æstimatione.* Auctore J. F. G. Dietz.

† Burton, Windius, Camper.



which is by disease so distorted in any part, as that the bones approach much nearer to each other than three inches, it is utterly impossible for a living child, at full maturity, by any means to pass.\*

To be precise; whenever a woman falls into labour, the small diameter of whose pelvis measures only two inches and three quarters, one or other of the following circumstances must take place.

First, The child's head must be opened, and the contents discharged, that the bones may be permitted to collapse; and the volume being thus diminished, it may afterwards be extracted with the crotchet. Or,

Secondly, For the certain preservation of the child's life, the mother must be doomed to inevitable destruction, by the Cæsarian operation. Or,

Thirdly, As a mean between the two extremes, the mother must submit to

\* Levret, Stein, Baudeloque.



the section or division of the symphysis pubis; an operation certainly less dangerous to the parent than the Cæsarian section, but, at the same time, certainly less safe for the child. Or,

Lastly, If none of these means will be permitted, the wretched mother, abandoned by art to the excruciating and unavailing anguish of labour, will probably expire undelivered; an event, which, however extraordinary it may appear to us, in the improved state of midwifery in this country, happened very lately to the wife of the heir-apparent of the greatest empire in the world.\*

Deplorable as all these conditions are, we are compelled by necessity, in this case, to make our election of one or other of them. Such are the dispensations of Providence, and to them we must submit!

Which of these operations is best en-

\* The Grand Duchess of Russia.



titled to our preference, when one of them *must* be performed, I shall now endeavour to determine: with no other view but the heartiest and best intention to promote the interest of humanity ; by shewing, that the fatal Cæsarian operation has in general heretofore been most unnecessarily performed, and by proving that it may almost always in future be prevented ; but particularly, by demonstrating the inconveniences and dangers attending it, endeavour to rescue my countrywomen from a new, precarious, and, I think, preposterous operation ; which, originating in France, has unhappily extended over all the continent of Europe.

In this calamitous situation, perhaps, the most miserable for the unhappy individual to which she can be exposed, in this world so full of evils, we are reduced to submit to that necessity, which every now and then occurs in all affairs



of this sublunary world, which supercedes all other considerations, is irresistible in its influence, and which, on this occasion, compels the physician to commit an act the most repugnant to human nature, while it subjects the wretched patient to the extreme of human misery.

In this unhappy dilemma, where the two lives are absolutely incompatible; where one being must be sacrificed to the preservation of the other; where either the mother or the child must be destroyed, or both together be exposed to extreme danger; to direct our conduct to the safety of the mother, as the first object; and to lessen the painfulness of our own feelings, arising from a necessary call of duty, against which our very nature revolts, I will endeavour to make a fair estimate between the situation of the child in utero, and the unhappy parent; by comparing the value



of life to the mother and to the child, and the value of each to society ; by comparing the loss they must each sustain by death, and the sufferings each must necessarily incur, from the violence inevitably preceding it.

By this inquiry, I trust, it will evidently appear, that the loss of the principle of life to the child in utero, compared with the deprivation of actual life, and the attendant misery to the mother, is so excessively small, that it is diminished almost to nothing, and affords the most irrefragable argument in favour of the delivery by the crotchet, in preference to either of the other methods.

Whatever reasoning is intended to have this effect, cannot be unacceptable either to the physician or the patient, as tending to reconcile him to the most painful professional duty, and to support and console her, in the most afflicting



situation of life. For this purpose, I beg leave to submit the following considerations to the serious attention of my readers.



## SECTION II.

THAT this life was intended by the Deity as a blessing, and that in general it proves such to the possessor, cannot be denied, without arraigning one of his first attributes, and violating the general sentiment of mankind.

Yet so precarious and unstable are the comforts of this world, that philosophers in all ages, and in all countries, have, from observation, expressed their doubt, whether life, at any period, may be reasonably expected to prove a future blessing to the possessor; and particularly one of the wisest, most enlightened, and celebrated characters of antiquity, has thus expressed himself on the subject:—  
“ *Utrum vivere an mori sit melius, dii*



“ immortales sciunt, hominem quidem  
 “ scire arbitror neminem.” \*

If this be a true and correct idea of life, if its enjoyments and miseries are so blended together, that with all the relations and accompanying pleasures which, though not pure, make up the sum of human felicity, it remains to be determined, whether it be better, at any time, to live, or die ; surely the destruction of the living principle before birth, the mere prevention of existence, or the deprivation only of a possibility of life, ought to be considered as a loss inexpressibly trivial.

A being in the uterine state of existence, sustains no immediate loss by the deprivation of the living principle, and can scarcely be said to incur any other positive injury. Before the operation, the child in utero cannot suffer mental

\* Cicero. I. Tuscul. Quæst. de Contemnenda Morte.



anxiety, or apprehension from the threatened violence ; and probably it does not feel much, if any, bodily pain in the actual commission even of such violence. Though it be not correctly true, as Shakespeare \* says, that

“ The sense of death is most in apprehension :”

and though it be still less true, as he afterwards finely and emphatically expresses himself, in the following description :

“ The weariest and most loathed worldly life,

“ That age, ache, penury, and imprisonment,

“ Can lay on nature, is a *paradise*

“ *To what we fear of death :*”

yet it is certainly from that apprehension, combined with those other circumstances of misery, which usually precede and accompany the act of dying, that death itself can be considered as the greatest of human evils—and from every one of

\* Measure for Measure, Act III.



those, the child in utero is entirely exempt.

But we are accustomed, in common language, to speak with the same familiarity of a living child in utero, as distinguishing it from a dead one, as if children before birth, actually possessed all the properties of life, and were susceptible of all the same impressions from external violence; insomuch, that it is not easy to persuade ourselves, or by any arguments to persuade others, to entertain a contrary opinion. Thus the idea of cruelty to beings in so helpless a situation is highly aggravated, and makes even a deeper impression upon our feelings, than perhaps the same treatment after birth, when the sufferings would be real and extreme. Thus, "*The Petition of the unborn Babes*," was the quaint title of a popular pamphlet, published some years ago by an ingenious physician, who had taken up most unjust,



and therefore most inexcusable prejudices, against the art of midwifery; and who endeavoured to fix on it an indelible stain of barbarity, by making the unborn children pathetically complain of the severity and cruelty of their treatment: by which means the author hoped completely to ruin it in the opinion of the world; as if any motives could possibly urge the practitioners of midwifery, to commit wanton acts of cruelty upon an unborn child!

But as children before birth are incapable of mental apprehension, so it is as undoubtedly true, that they are not yet arrived at, or in the possession of bodily sensation, and cannot therefore suffer pain, or become objects of cruelty.

That they cannot suffer from mental apprehension, is too notorious to require any proof. Even years elapse after birth, before the mind is susceptible of fear, or apprehensive of danger. But though it is generally acknowledged, that bodily



sensation is very imperfect and obscure before birth, it may require some convincing proof that it does not exist at all in that state, before the opinion will meet universal assent. A strong presumption that such, however, is the state of the case, arises from this observation; that although children do often die in utero, yet the mother never can discover by her feelings when death takes place there. The disease of which the child dies, and the act of dying, are equally unknown, and unnoticed by her. The cessation of the accustomed motion, is the first, and, for some time, the only difference observable by the mother, between the life and death of the child in utero.

Diseases which, at any period, attack the human body possessing sensation, with sufficient force to destroy life, are in general attended with such a degree of pain, as to excite extraordinary motion, and some struggle; at least in articulo mortis.



It is highly improbable that these should take place in the uterus, and the mother be insensible of their effect. It may, however, be barely possible, that the only diseases of which the unborn child is susceptible, are not of the painful kind. Gradual debility, it may perhaps be said, is the only effect of those means which nature uses, to destroy the principle of life in utero, and such a change would be imperceptible to the mother.

This conjecture, therefore, may not be considered as sufficient evidence, however presumable, that the child is not yet arrived at bodily sensation, before birth takes place. But the following observation, I think, must be esteemed incontestible evidence of the truth of the assertion.

When we are compelled, by dreadful necessity, to open the child's head, while we know it is yet living in utero, that operation requires such extreme and pain-



ful violence, that, were the child endowed with the slightest sensation, he must of necessity feel it; and his feeling must necessarily be accompanied with such struggles and exertions, as would be emphatically expressive of pain, and must be readily perceived by the mother, in a part so sensible, and irritable as the uterus.

Upon accurate and repeated inquiry in several such cases, I could never learn, that the mother was sensible of any such alteration in the motion of the child, even at the commencement of the operation, when the violence offered to it first takes place, and must be most painful. We are therefore, I think, warranted in the conclusion, that no sensation whatever does exist at that time; and that no cruelty, or barbarity, can be said to be committed upon a being absolutely without feeling.

Having proved that the loss which the



child sustains by the deprivation of the principle of life, is so extremely small, as almost to vanish to nothing, and that its bodily sufferings, in the act of deprivation, are absolutely none, it becomes proper next to inquire, what is the value of an unborn child to its parents, and to the community?

Before the birth of the child, parental affection has not taken place; which, for the wisest and best purposes, is one of the strongest, the most universal, and perhaps the most uncontrollable passions of the female breast; often changing, even in the subordinate parts of the creation, the very nature of a timid mother, into that of a ferocious animal. Disappointment of expected pleasure only, not the loss of an object of this powerful passion, or the loss of any actual enjoyment, is the sacrifice which the unhappy parent makes on this occasion.

Had parental affection commenced at



the time of conception, or when the embryo is first formed; and had it continued to increase during gestation, as the foetus advanced in growth; by the time of birth, the passion would have been mature, and its influence most powerful, and the mother's other sufferings would have been greatly aggravated by the loss of a beloved child. But as such a passion could be directed to no useful purpose, during the existence of the child in the uterus, nature, who never performs works of supererogation, either in the physical or moral world, has not yet kindled it in the mother's breast. It begins only with birth; and parents in general may, I think, be literally said to suffer nothing, by the loss of an unborn child.

In the case of wealthy and noble families, this loss is in particular instances acutely felt; but the sensation is not so truly parental as we may suppose. It is not so much the loss of a *child* which



they regret, as the want of an *heir* and *representative*: if sorrow be blended with disappointment, the latter still predominates.

To society likewise, the loss of any individual child must be exceedingly small, when it is known by daily observation, what great numbers of children are still-born, or die without such violence before birth; when it is likewise known, how very precarious is the chance of a child's living two years; but how most of all precarious, is its arrival at that period at life, when it can be of any service to its fellow creatures, or even itself participate in the enjoyments of the world.

In estimating the value of the life of the unborn child at so low a rate, I *most earnestly* request, that the medical reader will never lose sight, that it is only in comparison with the mother, or when the child's life is put in competition with



her safety, that any arguments on this score are entitled to the smallest weight; it is for the preservation of the mother's life only, that we can justify the practice here recommended and insisted on.

But when that object is to be gained, and, by dire necessity, can be gained by no milder means, it requires only a very short comparative description of the mother's situation, with the preceding account of the child, to demonstrate the preference due to her safety. While the unborn child suffers neither in body or mind, as has been proved above, from the violence which destroys his existence in utero—the unhappy mother's sufferings to spare and preserve that child, must be extreme in both—dreadful even in apprehension to a timid woman, whose imagination is ever active in anticipating evil, but most dreadful in the immediate and actual sufferance, either from the Cæsarion section, or the division of the sym-



physis; then, after either of these tremendous operations, a train of grievous symptoms follow, which precede death infallibly in one case, and too often in the other. While the loss of the unborn child, too, as just described, is extremely small to itself, to its parents, and to the community; the mother, being probably connected by all the dearest relations, as friend and daughter, sister and wife; her death must to society at large be a considerable, and to many individuals probably an irreparable loss. With these circumstances in our view, the loss of an unborn child becomes so inconsiderable, as almost to exclude the possibility of comparison.

This comparative estimate of the value of the two lives, and the practice recommended in consequence, receives likewise the strongest confirmation and sanction, from popular opinion and sentiment; which in this case ought to have great



weight in directing our conduct, because from them there lies no appeal. It is the interests of mankind at large which by the practice here recommended we are solicitous to promote; it is their feelings alone which we are anxious to gratify. Instead, therefore, of those opprobrious epithets applied by ignorant or interested persons to this practice, infinite credit, in my opinion, is due to the practitioners of midwifery for their fortitude in this trying situation; a situation which, of all others, requires the firmest resolution to act: for the action we are by necessity compelled to do, is in direct violation of all our finest feelings; and, in my opinion, no worldly reward can compensate for the pain that we suffer, and the sacrifice which we make, by this unhappy, but indispensable call of duty.



### SECTION III.

I HAVE been induced, in the preceding Section, to dwell the longer on this part of my subject, because, though I am aware that the practice insisted on is common in this country, yet it has always been avowed with reluctance, and performed with hesitation; and therefore, I am convinced, it has been in many instances most unmeaningly, and, what is infinitely worse, most injuriously delayed.

The ancient authors describe it as only to take place when the child is already dead in utero; and all the latest foreign writers concur with the ancients; and, to intimidate the practitioner, brand it with the most opprobrious, and even criminal epithets,\* and recommend, in

\* See Crantz, Weidmann, &c. &c. one calling it *Homicidium*; another, *Facinus nefandum*, &c. But a late



preference, during the life of the child, every other method, however dangerous to the mother. Even in the present practice of this country, to soothe our feelings, we always wish to persuade ourselves that the child is actually dead, before we attempt to lessen the head, and deliver with the crotchet. This conduct is founded on a strong natural sentiment, and is in the first effect innocent, and therefore excusable; but in hope and expectation that the child *may* die before it is absolutely necessary to perform this operation, we are often induced, I am afraid, to wait much longer than is consistent with the mother's safety; and then, shockingly to humanity, and disgracefully to the profession, both parent

writer, in our own country, has ventured a step further; I trust, however, without being aware of the force of the English word: for, speaking on this subject, he says, "By the horrid (and 'tis to be feared, sometimes *murderous*) expedient," &c.

*See Aitkin's Elements of Surgery, p. 389.*



and child, are involved in one common death.

I have been much misinformed, if, upon this ground, and to gratify the scrupulous feelings, or mistaken principles, of otherwise able, and worthy men, many valuable women have not lost their lives in this country, and even in this city.

Professional duty ought to be superior to all our feelings, whenever they interfere with each other. Necessity (nay, even honesty!) in this case, will not admit the practitioner to indulge himself in those feelings most grateful, because most flattering to the human heart; they must be sacrificed to his duty, or he is most unfit for his profession: and whatever his general knowledge and skill may be, his practice, in this case, will often be fatal to his patient, and of course highly injurious to society.

I am convinced, that in this parti-



cular part of the practice of midwifery, in this country, we have been long and much to blame, by delaying the operative delivery, when necessary, too late. An opinion has been taught, from great authority, which has of late pretty universally prevailed throughout this country, that nature is all-powerful in parturition; that there is no putting limits to, or circumscribing her abilities; and that the interference of art, while those abilities are in vigour, is in all cases injudicious and dangerous.

This opinion has probably in part arisen from that mistaken analogy in parturition, the influence of which I have endeavoured to obviate in the early part of this work, partly from natural timidity of disposition, from indecision, and from indolence or reluctance of action; but chiefly, I believe, from early and deep impressions of the mischievous effects of rashness, without sufficiently ad-



verting to the no less dangerous consequences of procrastination. Wherever, or however this opinion may have originated, it has been extended, in this instance, to a most blameable degree; for though, as a general position, it is obviously and incontrovertibly true, yet here it has so many exceptions, and is in so many instances false in fact, and might be fatal in consequence, by preventing in this critical situation the timely recourse to art, that its influence ought to be corrected, or restrained, however applicable to that degree of difficulty which was the subject of the former Essay.

I hope it may be permitted, in illustration, to make a further digression, and request the attention of my readers to the following obvious circumstance. No position in practical midwifery is more universally true, than that the powers of nature are equal to the expulsion of the placenta, and that in



common it may, with perfect safety, be trusted to the operation of those powers; yet the extension of that position to general practice has, in many instances, produced the most dangerous, and, in several recent cases, the most fatal consequences.\*

In that precise degree of laborious parturition, which is the subject of this dissertation; to check, or prevent the dangerous operation of an opinion or principles, so conformable to our observation of the admirable wisdom of nature, in all her other works; and so agreeable to our

\* Having in that part of this work which relates to the delivery with the forceps, urged the necessity of waiting as long as the powers of the woman are likely to be efficacious, it may appear a contradiction to that principle, that I have here recommended the early performance of this operation: but let it be remembered, that in cases of deformity of the pelvis, the impossibility of the labour being completed by the powers of nature, is at once evident, from the dimensions of the pelvis; and therefore all delay must be improper, because both useless and dangerous.



own inclination, and which are therefore so apt to impose upon our judgment; I will beg leave to revert to the consideration of the first practical position in this Essay, viz. “the inevitable  
 “necessity of lessening the volume of  
 “the child’s head, in certain dimensions  
 “of the pelvis, with a view to induce  
 “and urge an early commencement of  
 “the operation;” for upon the timely performance of the first stage of this business, in a great degree, depend the facility, safety, and efficacy, of the subsequent delivery: the delaying the commencement too long, is therefore in fact to deprive it of all future benefit; or at least to render that success precarious, which might otherwise have been infallible.

When once the necessity of this practice is established, by the acknowledged dimensions of the pelvis, as precisely ascertained in a former part of this Es-



say ; then, in all the different degrees of deformity absolutely requiring the child's head to be lessened, great inconveniences, without a possibility of benefit, may happen from procrastination, while infinite advantages will ensue from the early commencement of the operation.

Thus, for example, if the pelvis measures two inches and upwards, to less than three inches, from pubis to sacrum, and the head be opened in the beginning of labour, and the cerebrum discharged ; by the collapsing of the bones, the volume of the head will be so much reduced, as in all probability to admit, in time, of being forced into the pelvis by the powers of nature, by which means the application of the crotchet may perhaps be altogether avoided ; at least, the danger attending the use of that instrument, while the head lies remotely above the brim, will certainly be prevented ; a circumstance of great consequence to-



wards insuring the perfect safety of the patient in this operation. But if the pelvis is so contracted, as only to measure from one inch and a half, to rather more than two inches, there can be no reasonable expectation, or even possibility, that the head of a child at full maturity, should, by the pains of labour, be forced into the pelvis without the assistance of the crotchet: notwithstanding which, great advantages will be gained by the early opening of the head; for putrefaction will be sooner, and more complete; the child's body, of course, will become softer, and more compressible; the union of the bones will be much loosened; and the subsequent extraction will be infinitely easier to the operator, and proportionably safer for the patient. Thus, in all possible cases, and in all points of view, the commencement of the operation cannot be undertaken too early, wherever the cavity of the pelvis is within



the stipulated dimensions, and the necessity of the operation is completely established by deliberate inquiry, and, if possible, confirmed by consultation.

I presume that I have now satisfactorily proved the necessity and propriety of opening the head of the child, at the beginning of labour, whenever the capacity of the pelvis is only two inches and three quarters, or certainly less than three inches, from the utter impossibility of a child of ordinary size, at full time, being born alive by any means, either of nature or art, through so small a pelvis.

It will here naturally occur to the inquisitive reader, to enquire, whether it is not often necessary to open the head of the child, when the dimensions of the pelvis are considerably larger than those stated above, as invariably requiring this operation? To which I beg leave to answer, that it certainly is; but it does not come within the intention of this Es-



say, to consider at large any other than those dimensions, which absolutely, and of themselves, demand this, or one or other of the specified operations. The necessity of the case depends here upon the extraordinary size of the child: and I will only just observe, that as it is impossible to determine the absolute volume of any head, while it remains in the uterus, so we can only be directed in our conduct, by the inability of the powers of nature to force the head into the pelvis; and we ought on no account therefore, to have recourse to this dreadful operation, till those powers are exhausted, or the mother's life seems to be threatened with danger from further delay. No precise rule can be prescribed in this case; it must be trusted to the sagacity, the discretion, and the good sense of the operator, and the assistance of a consultation, which in this situation ought never to be dispensed with. The event



in this case, however, may always be reasonably expected to prove favourable to the mother, unless the labour has been protracted much beyond the limits prescribed by general practice; because, in a pelvis of such dimensions, the delivery, when once determined, can always be easily, speedily, and of course safely accomplished.

Having, I trust, in the second Section, by the comparative estimate of the value of the two lives, placed in competition, satisfied the most scrupulous, of the propriety of never exposing the valuable life of a mother to absolute destruction by the Cæsarian operation, for the certain safety of the child; or to imminent danger by the division of the symphysis, for a mere chance of preserving the child. Having, I hope, equally satisfied the most diffident and timid, of the impropriety (in this case) of that unmeaning delay, which, while it unnecessarily exposes the unhappy wo-



man to excruciating torture at present, equally enhances her future danger, without a possibility of benefit; the other question which I proposed to examine, and endeavour to determine, and which still remains to be considered, is, what are the smallest possible dimensions of the pelvis, through which a child, with its head opened, can certainly be extracted with safety to the mother, by means of the crotchet?

As the former question has not yet been determined with sufficient accuracy infallibly to direct us in first opening the head, so I know of no author who has even attempted upon sure principles to ascertain the latter.

I will therefore now endeavour, in a few words, to determine it, with every degree of exactness necessary or useful to direct our conduct in future; a point in practice, that may be as essentially necessary to be settled, previous to the com-



mencement of the operation, as even the determination of the first dimensions requiring the use of the crotchet ; for otherwise, the head may be unnecessarily opened, and the child's life wantonly destroyed, without ensuring safety to the mother ; for we may not be able to extract the child through the natural passage, even after the head has been lessened. In which case, we shall be ultimately compelled to have recourse to the section of the symphysis pubis, or the Cæsarian operation, without the possibility of any equivalent.



## SECTION IV.

IT is well known to the experienced reader, and will be confirmed by the cases of Elizabeth Sherwood and Mrs. West, that after the head of the child is once opened, all the bones, except those making up what is called the basis of the cranium, may easily be broken or destroyed with the crotchet, and extracted, bit by bit, with a pair of small forceps. The whole of the parietal and frontal bones may be thus readily and easily removed: but the basis of the cranium, in the former case, absolutely resisted all the force I was possessed of, or dared to employ. I could not break it, and extract it piecemeal, as I had done the other bones; and I was fearful of being foiled in the completion of the delivery, till I



thought of changing the position of the head, by turning it sideways; for by that means the relative volume was very considerably diminished: but though it was then comparatively easy, it still required considerable exertions to bring it even in that situation through the upper aperture, or most contracted part of the pelvis.

From the event of this case, I concluded, that whatever pelvis would admit the basis of a foetal cranium turned sideways, to enter and pass through, would be always sufficiently capacious to admit of this mode of delivery, and preclude the Cæsarian operation. To determine this point, the first thing needful, was to ascertain the width of the basis of the foetal cranium, when all the upper part of the head is removed. I therefore examined a great number of children's heads, who died immediately in, or near the time of birth, and found but the smallest possible variety in the volume of the



bones making up the basis of the cranium, when it is turned sideways; for measuring these bones in that state, I found that they never exceeded one inch and a half in width; indeed, they seldom measured quite so much, after the frontal and parietal bones were removed. Whenever there is a space from pubis to sacrum, or from the fore to the hind part of the upper aperture of the pelvis, equal to an inch and half, I am convinced it will be always practicable to extract a child by a crotchet, after the head has been some time opened, and the texture of the child's body is softened by putrefaction (as recommended above), and the whole of the parietal and frontal bones are picked away; and that,—with tolerable facility to the operator, and perfect safety to the patient.

The manner of performing the operation is so easy, and in general so well understood, that I do not think it necessary



to enter into any formal description of the manner of doing it, or give a tedious and minute detail of what may be found in every system of midwifery, from La Motte, who first describes and recommends it, to Smellie, and all the later authors; and to do which with safety, every person is instructed in his earliest studies. But it is especially less necessary in this Essay, because in the case of Elizabeth Sherwood annexed, I shall be as minutely attentive in describing every important circumstance which related to the ultimate delivery, as I purpose in the first part to be in ascertaining the dimensions of the pelvis, previous to the commencement of the operation; in order that the case altogether may afford (as far as any single case can) a demonstration of the possibility of bringing a child at full time, and of the ordinary size, through a much smaller pelvis, than has been usually supposed by practitioners,



or described by authors, as admitting such a mode of delivery; and likewise that the operation is practicable with perfect safety to the mother, by ordinary skill, and ordinary attention.

Thus, the Cæsarian operation may with certainty be avoided, in all dimensions greater than those above described; or in other words, that it is never absolutely necessary, where the small diameter from pubis to sacrum measures completely one inch and a half; or (which is not unusual, where there is a space equal to that width on either side of the projecting sacrum: dimensions much smaller than where that operation has been most generally performed, and infinitely smaller than where it is invariably required by all the best writers on this subject.\*

I cannot conclude without enforcing in the strongest terms the necessity of open-

\* See Levret, Simon, Stein, Roederer, Saxtorph, Baudeloque, Crantz, Weidman, &c.



ing the head of the child in the very beginning of labour, thereby to induce as speedy and complete a state of putrefaction as is possible ; for by that means (let me intreat permission to repeat it again) the union of the child's bones will be loosened, and the whole body reduced to a more compressible state, affording less resistance, and requiring less violence, and of course exposing the mother to less danger of injury. I am persuaded that not only the safety, but even the practicability of extraction, will, in a very small pelvis, very much depend on an attention to this circumstance.

That the young practitioner may be directed in all circumstances which admit and require precision, I would recommend the delaying all attempts to extract the child, till the head has been opened at least thirty hours: a period of time sufficient to complete the putrefaction of the child's body, and yet not suf-



ficient to produce any danger to the mother. From such conduct, the beneficial effects of facilitating the extraction of the child, I am firmly convinced, by frequent experience, will much overbalance any possible injury, which may reasonably be expected, from the putrid state of the child, and secundines, in so short a time.

The propriety, however, of this delay, entirely depends upon the head being opened in the beginning of labour ; for if we do not perform the first part of this operation, till the labour has been protracted so long, as that the woman's strength begins to fail, we must expedite the delivery as speedily as possible, otherwise the danger which we wish to avoid will infallibly be incurred: no woman can suffer continued labour beyond a certain period, without fever, inflammation, and the most imminent danger, if not death, ensuing.



In the use of the crotchet, I must beg leave to recommend the introduction of that instrument into the cavity of the cranium, and the fixing it upon some part of the solid bones which compose the basis ; by which means a firmer purchase will be procured ; it will be less likely to slip ; and if it should, there will be less probability of its injuring the soft parts. This internal application of the instrument, is obviously so much safer on all accounts, that I should not have thought it worthy of notice, had not the last author who has written on the subject of midwifery in this country, expressly recommended the crotchet to be applied “ somewhere on the outside “ of the cranium.”\*

I must likewise beg leave earnestly to recommend, as it may eventually be of great importance, to keep one hand con-

\* Dr. Hamilton (the author alluded to) has changed his opinion since the first edition of this Essay.



stantly in the vagina, while the extraction with the crotchet is performing, for by that means we shall always be more cautious in the quantity and direction of the force necessary to be employed; and what is most particularly to be guarded against, we shall by that means certainly prevent any injury to the rectum from the point of the crotchet, if it should by any means unfortunately lose its hold. For although the hand, which is between the rectum and the instrument, may in that case be hurt, yet it must evidently defend the rectum from being wounded; an accident which might otherwise easily happen, and which is an object of infinite consequence to be prevented; for the future comfort of the unhappy patient will much depend upon such prevention: too great care or caution cannot therefore be exerted to guard against such an accident; and the means recommended is obviously infallible.



This is a circumstance which has not escaped the acute Celsus, in his description of this operation, who expressly mentions it, though not only, or precisely with the same intention: “Tra-  
 “ here autem dextra manus uncum, *sinis-*  
 “ *tra intus posita,*” &c. and which he supposes the more necessary, when the body being putrid, the instrument may be apt to slip. “Nam uncus injectus putri cor-  
 “ puscule facile elabatur, in quo quid pe-  
 “ riculi sit, supra positum;” which danger he had before stated in the following manner: “Unci acumen in ipsum os  
 “ vulvæ delabatur, sequiturque nervo-  
 “ rum distentio, et ingens periculum  
 “ mortis;”—and to avoid the danger which may ensue from this accident, he recommends the operation to be done slowly, and with intervals: “Leniter tra-  
 “ here oportet; et per has occasiones  
 “ paulatim eum educere.” He begins the chapter upon this subject with say-



ing, that it is “ among the most difficult  
“ and dangerous operations, and that it  
“ requires *consummate skill*, and *the ut-*  
“ *most caution* in the performance.” The  
whole chapter may be considered as a  
commentary on that position, and which  
I will beg leave again earnestly to re-  
commend to the attentive perusal of my  
young readers. For although nearly  
two thousand years have elapsed since  
Celsus lived at Rome, there is not per-  
haps a better dissertation extant upon  
this subject, either in point of compo-  
sition, or matter. He concludes it, by  
recommending such treatment, as con-  
veys a strong impression of the dan-  
ger of the case, according to his opi-  
nion, and the necessity of great atten-  
tion in the subsequent management of  
the patient ; and which is one, among  
innumerable instances, of the accurate ob-  
servation of the ancients, in the descrip-  
tion, and comparison of the different mor-



bid states of body, produced by different causes.

I will beg leave now to present the case, repeatedly mentioned in the preceding Essay, in confirmation of the possibility of the doctrine insisted on; and to it I shall subjoin two others, published by my friend Dr. Clarke, in the Medical Journal for the year 1786. They are a farther proof of the possibility of delivery by the crotchet, in cases of extreme deformity of the pelvis, with perfect safety to the life of the mother.



## SECTION V.

### CASE I.

ELIZABETH SHERWOOD, the subject of the following Case, was from early infancy, as I learned by her mother's information, of an infirm, weakly constitution, and of a ricketty habit; which continuing for many years, so much hindered her growth, that her height never exceeded forty-two inches. She was at the same time so extremely deformed, both in her spine and lower extremities, as never to be able to stand erect for one minute, without the assistance of a crutch under each arm. At the age of twenty-seven years, she however became with child, and was admitted a patient into the Store Street Hospital.



Early on Sunday morning, November the 19th, 1776, she came into the house, and complained of having been in pain the two preceding days and nights, so as to have had very little sleep. I examined her per vaginam that evening, with great attention; and as her pelvis was singularly distorted, and the capacity very much contracted, it will be right to describe the result of that examination with every possible degree of accuracy.

Immediately upon the introduction of the finger, I perceived a tumour, equal in size, and not very unlike in the feel, to a child's head. However it was instantly discovered, that this tumour was formed by the basis of the os sacrum, and last lumbar vertebra, which projecting into the cavity of the pelvis at the brim, barely left room for one finger to pass between it and the symphysis pubis; so that the space from bone to bone, at that



part, could not exceed three quarters of an inch. On the left side of the projection, quite to the ileum, which was about two inches and a half in length, the space was certainly not wider, and indeed by some of the gentlemen, who examined her afterwards, it was thought to be rather narrower. On the right side, the aperture was rather more than two inches in length, from the protuberance to the ileum, and as it admitted the points of three fingers (lying over each other) in the widest part, it might at the utmost be about one inch and three quarters, from the hind to the fore part; but it became gradually narrower, both towards the ileum, and towards the projection.

The os uteri, although but little dilated, was soft, and flabby, as it usually is on the approach, or in the beginning of labour. The membranes were not yet broken, but with some difficulty I perceived the child's head through them,



situated very high above the projection. The tumour of the uterus extended to the scrobiculus cordis, and was of the usual size at the complete term of utero gestation. The abdomen was hard and tender. As she seemed much fatigued for want of rest, fifteen drops of tinct. opii was given to her, by which some sleep was procured between the pains. I was informed that the membranes broke some time after I left her, and that there seemed to be the usual quantity of liquor amnii. The next morning, being hot and thirsty, and her pulse very quick, I directed ten ounces of blood to be taken from her arm; and the bandage accidentally slipping off, soon after her arm was tied up, she might perhaps lose as much more, before it was discovered. No alteration whatever had taken place, either in the state of the os uteri, or the position of the child's head.

In so extraordinary and singular a



case, I naturally wished (on my own account) for the advice and assistance of my professional friends; while, at the same time, I knew it would give them much satisfaction to have an opportunity of examining so distorted a pelvis, and of seeing the event of so singular a case. Accordingly, I met in consultation that evening, Doctors Bromfield, Denman, Walker, and Mr. Watson; Dr. Hunter's presence was requested, but he was engaged. Every gentleman present immediately satisfied himself by examination per vaginam, of the dimensions of the pelvis; concerning which there was the smallest possible difference of opinion; some thinking it rather narrower, but none wider than the dimensions stated above. We weighed with great deliberation, as became us, every circumstance by which our future conduct in this case ought to be regulated; particularly, we used our best endeavours to determine the state of



the child in utero ; and whether, if the Cæsarian operation should be performed, which we had in contemplation to do for some time, there would be a certainty of preserving one life at least. We were rather disposed to believe that the child was dead. It was therefore agreed, that an attempt, at least, ought to be made to deliver the poor creature, by opening the child's head, and extracting it with the crotchet.

It was my duty to perform the operation, which I began about eleven o'clock that night, after placing her in the usual manner, close to the edge of the bed, on her left side, as the situation most commodious both for the patient and myself. Even the first part of the operation, which in general is sufficiently easy, was attended with considerable difficulty, and some danger. The os uteri was but little dilated, and was awkwardly situated in the centre, and most con-



tracted part of the brim of the pelvis. The child's head lay loose above the brim, and scarce within reach of the finger; nor was there any suture directly opposite to the os uteri. Having desired an assistant to compress the abdomen with sufficient force, to keep the head in contact with the brim of the pelvis, so as to prevent its receding from the scissars, upon the necessary pressure of the point to make the perforation; I introduced them with the utmost caution, through the os uteri; and after repeated trials, at length succeeded in fixing the point into the sagittal suture, near the posterior fontanelle. I very soon, and with great facility, penetrated into the cavity of the head; destroyed the texture of the cerebrum: with a common spoon extracted a considerable quantity, and breaking down the parietal bones, made an opening sufficient for the free discharge of what remained.



In this state we left her ; and, although she was fatigued with this part of the operation, no opiate was given, as I wished to have the full effect of the labour-pains ; hoping, that after the brain was discharged, the bones would collapse, and that a portion of them at least might be forced into the pelvis. In this expectation however I was disappointed ; for notwithstanding she was prevented from sleeping all night, by the frequency and violence of the pains, in the morning I was not sensible of the smallest alteration in the position of the child's head. During the whole day, the pains were neither so strong, nor so frequent, as they had been ; her pulse was extremely quick, but tolerably strong ; the discharge from the vagina was very considerable in quantity, and most abominably foetid. Doctors Bromfield, Denman, and Hunter saw her in the course of the day ; she was examined besides, by more than thirty stu-



dents in midwifery, who were at that time attending Dr. Denman's and my lectures; and which she willingly permitted at my request, from a representation of the singularity of her case, and the utility which might result from its being more generally known.

Towards the evening the pains again considerably increased, and as I wished to benefit from the full effect of them, no opiate was given, she therefore had no sleep; and the pains continuing through the whole night, when I first saw her the following morning, her strength was greatly reduced; her pulse beat 140 strokes in a minute, notwithstanding every precaution had been used to guard against fever, particularly, by forbidding all strong liquors, and by keeping the ward unusually cool. Her spirits however were good, and her resolution unabated; for although she was extremely anxious to be delivered, and expressed



her willingness to undergo any operation, however painful, for that purpose, she was equally ready to submit to my determination, if any longer delay was required. Upon examination, a small portion of the head was found squeezed into the pelvis; indeed there were some little detached bits of the parietal bones lying loose in the vagina.

Our intention, by delaying the extraction of the child six-and-thirty hours after opening the head, was, in the first instance, to allow the uterus opportunity by its continued contractions to force the head as low, and as much within reach of the crotchet, as the nature of the case admitted; and afterwards, to induce as great a degree of putrefaction as possible in the child's body, by which means it would become soft and compressible, and afford the least possible resistance in its extraction. These two purposes appeared to me now completely accom-



plished, and that no further advantage was to be expected from further delay. On the contrary, I was fearful lest the permitting so large a mass of putrid matter as a child at full time, with placenta, &c. to remain in the uterus longer than was absolutely necessary, might expose her to the future danger of a putrid fever, if she should escape all material injury from the inevitable violence, and consequent danger of the operation.

I immediately determined to begin to make an attempt to extract the child ;— I call it an attempt, for I was far from being satisfied in my own mind of the practicability. Adverting to the very small space of only one inch and three quarters at the utmost, and in the widest part, and that only on one side of the projecting sacrum, while the space between it and the symphysis, and on the other side barely amounted to three quarters of an inch, I trust I am justified in



my feelings and expression. Having placed the patient, as usual, on her left side, near the edge of the bed, as the most commodious situation, Mr. Shute of Exeter, who then resided in the hospital as house pupil, and another student, being present as assistants. About ten o'clock on Wednesday morning I began the operation. Dr. Bromfield was so obliging as to call on me soon afterwards; but his engagements permitted him to stay only a few minutes.

The os uteri being situated as before described, in the most contracted part of the brim of the pelvis, where the space was incapable of permitting the introduction of the curved point of the crotchet, without great difficulty and danger, my first endeavours were bent to draw the os uteri with my finger, into the widest part of the brim of the pelvis, and to dilate it as much as possible. Both the removal of the os uteri, and such dilatation



of it as the bones admitted, were effected without much trouble. I then introduced the crotchet through the perforation into the head, and by repeated efforts, made in the slowest and most cautious manner, destroyed almost the whole of the parietal and frontal bones, or the whole upper and presenting part of the head; and as the bones became loose and detached, they were extracted with a pair of small forceps, to prevent as much as possible the laceration of the vagina in their passage through it.

The great bulk of the head, formed by the basis of the skull, still however remained above the brim of the pelvis, and, from the manner in which it lay, it was impossible to enter, without either diminishing the volume, or changing the position: the former was the most obvious method, for it was a continuation of the same process, and I trusted would be equally easy, in the execution: I was



however most egregiously mistaken and disappointed, being repeatedly foiled in every endeavour to break the solid bones which form the basis of the cranium; the instrument at first invariably slipping, as often, and as soon as it was fixed, or at least before I could exert sufficient force to break the bone. At last, however, by changing the position of the instrument, and applying the convex side to the pubis, I fixed the point, I believe, into the great foramen, and by that means became master of the most powerful purchase that the nature of the case admitted. Of this I availed myself to the utmost extent, slowly, gradually, but steadily, increasing my force, till it arrived to that degree of violence, which nothing could justify but the extreme necessity of the case, and the absolute inability, in repeated trials, of succeeding by gentler means. But even this force was to no purpose; for I could not perceive



that I had made any impression on that solid bone, or that it had been in the least advanced by all my exertions.

I became fearful of renewing the same force in the same way, and therefore abandoned altogether the first idea of breaking the basis of the cranium, and determined to try the second, by endeavouring to change the position. I once more examined, with a view to ascertain, as accurately as the mangled state of the head would admit, how it presented, and what proportion in that state it should seem to bear to the aperture through which it was to pass. From the information thus procured, I must acknowledge the second method appeared to me but a forlorn hope; however, there was no other resource. I therefore again introduced the crotchet in the same manner; and fixing it in the great foramen, got possession of my former purchase; then introducing the two fingers of my left



hand, I endeavoured with them to raise one side of the fore part of the head, and turn it a little edgeways. Immediately and easily succeeding in this attempt, the two great objects were at once accomplished: for the position was changed, and the volume diminished. Continuing my exertions with the crotchet, I soon perceived the head to advance; and examining again, found a considerable portion of it had been brought into the pelvis.

Every difficulty was now removed; and by a perseverance in the same means for a short time, the remaining part of the head was brought down, and out of the os externum.

After waiting a few minutes, a napkin was put round the neck of the child, and given to an assistant. I then introduced the crotchet, and (first opening the thorax) fixed it firmly in the sternum. By our united force, strongly exerted for



about a quarter of an hour, first one shoulder was brought down, and then the other ; and lastly, after opening the abdomen, the whole body, (with the sternum and spine pressed close together) were extracted in the most putrid and almost dissolved state: but it appeared to be a moderately-sized child, at the full time. The bones of the head were preserved. The placenta came away without much trouble. The operation continued for about three hours: and the poor creature, although she had been in strong labour three days, and her bodily strength was much exhausted by violent and unavailing pains, yet she supported the whole business with surprising fortitude, and suffered much less than might reasonably have been expected, either from the length of the labour, or the extreme violence in the delivery. She went to sleep very soon after the operation was finished, passed a good night,



voided her urine freely, complained of very little pain, had only the usual fever ; and recovered so fast, that she sat up the seventh day ; acknowledging, with great gratitude, that she was then as well, in all respects, as in any former period of her life.

As far as I have been able to procure information, either from books, or the oldest and most experienced practitioners of this city, this woman's pelvis was the smallest, through which a child at full time, and of the ordinary size, however lessened by art, has ever been extracted : and as it was in contemplation in this very case to perform the Cæsarian operation, if we could have been satisfied of the life of the child ; upon the presumption of the impossibility of bringing it under the circumstances of age and size above described, through the natural passages, I hope the event of this case may prove the means of frequently preventing that fatal operation in future.



Before I conclude, truth and candour require me to acknowledge, that notwithstanding I have stated this woman's pelvis to be the smallest, where such delivery has ever been successfully performed, yet I can lay claim to no merit whatever on the occasion. The operation was undertaken contrary to my opinion; succeeded very contrary to my expectation; and yet, in the performance, it neither required extraordinary skill, or extraordinary attention. I can therefore only be entitled to the negative praise of having done no material injury to my patient, by the extreme but unavoidable violence of the operation.

## CASE II.\*

“ Ann Cooper, aged twenty-one, when  
 “ she was about two years old, became

\* Vide London Medical Journal for the year 1786.



“ affected with the rickets; in conse-  
 “ quence of which she was very much  
 “ distorted, both in her spine and inferior  
 “ extremities; so that she only measures  
 “ in height four feet and two inches.  
 “ In the middle of October, 1784, she  
 “ became pregnant. During the early  
 “ part of her pregnancy she had few  
 “ complaints; but towards the end of it  
 “ she had a great deal of pain.

“ She was admitted into the Store-  
 “ street Hospital in the morning of Tues-  
 “ day, July 19, 1785; and about five  
 “ o’clock in the afternoon, the os uteri  
 “ began to dilate very slowly, but no part  
 “ of the child could be felt. Her pains  
 “ continued very strong and frequent  
 “ through the whole day, and she vo-  
 “ mited several times.

“ July 20th. The os uteri was rather  
 “ more dilated this morning than it had  
 “ been on the preceding evening, and  
 “ the membranes were protruding into



“ the vagina. At three o’clock in the af-  
 “ ternoon, the membranes broke; and,  
 “ upon a very attentive examination, it  
 “ appeared to Dr. Osborn, and to myself,  
 “ that the diameter from the os pubis to  
 “ the os sacrum, hardly, if at all, exceeded  
 “ one inch and a half. It was therefore  
 “ determined that the volume of the head  
 “ should be lessened. As the patient had  
 “ passed no fæces this day, a clyster was  
 “ injected; after the operation of which,  
 “ Dr. Osborn evacuated the brain, hav-  
 “ ing first made a perforation into the  
 “ head, which was performed not without  
 “ some difficulty, because it became neces-  
 “ sary (her belly being very pendulous)  
 “ to press considerably upon the abdo-  
 “ men, in order to keep the head over  
 “ the superior aperture of the pelvis.

“ She was then left during the night,  
 “ that putrefaction might begin, and the  
 “ bones collapse. Towards the morning  
 “ her pains became violent, accompanied



“ with some hysterical spasms; therefore  
 “ Dr. Osborn, having picked away great  
 “ part of the parietal bones with the  
 “ crotchet, which was by this time prac-  
 “ ticable, delivered her of the remainder  
 “ of the head at seven in the morning.  
 “ The body followed with tolerable ease,  
 “ and the placenta came away very fa-  
 “ vourably.

“ After her delivery, she fell asleep  
 “ for some hours, but awoke with pain  
 “ in the abdomen, and vomiting. The  
 “ pain increased and continued for seve-  
 “ ral days; during which time she had  
 “ evident marks of puerperal fever, which  
 “ had been most probably brought on by  
 “ the necessary force used in pressing  
 “ upon the abdomen during the labour.  
 “ She was relieved, however, by bleeding,  
 “ frequent clysters, fomentations applied  
 “ to the abdomen, and the use of relax-  
 “ ants. The symptoms were at last  
 “ wholly carried off by a miliary erup-



“ tion, which appeared on her face and  
 “ neck on the 28th of July; immediately  
 “ after which she began to regain her  
 “ strength, and was discharged perfectly  
 “ well on the 8th of August.”

### CASE III.

“ About the middle of September last  
 “ I was desired to attend Mrs. West, aged  
 “ thirty-two, in her labour, which she  
 “ expected would be near the end of Oc-  
 “ tober. She had passed the former part  
 “ of her pregnancy with tolerable ease;  
 “ but towards the expiration of it she had  
 “ become very thin and uneasy, from the  
 “ bulk of her belly, which was become  
 “ extremely pendulous over the os pubis.

“ In the very early part of her life she  
 “ had sustained the misfortune of frac-  
 “ turing the tibia of one side, and not  
 “ long afterwards the femur of the other.  
 “ The weakness arising from the con-



“ finement necessarily occasioned by these  
 “ accidents, superadded, probably, to a  
 “ previous disposition to the disease, pro-  
 “ duced the rickets; the consequence of  
 “ which was, that every bone which sup-  
 “ ported any weight, yielded to the su-  
 “ perincumbent pressure. Her growth  
 “ by this means was impeded so much,  
 “ that she now only measures thirty-  
 “ nine inches and a half in height.—  
 “ There was every reason, therefore, to  
 “ apprehend that her labour would be  
 “ difficult; but I was encouraged to hope  
 “ for success from the event of the case  
 “ of Elizabeth Sherwood, and of that  
 “ which I had so lately seen under the  
 “ care of Dr. Osborn; and although her  
 “ height was less than either of them,  
 “ yet I hoped that her pelvis might not  
 “ be so small.

“ She was seized with regular perio-  
 “ dical pains, on Wednesday, November  
 “ 2, 1785, which continued through the



“ two following days: but becoming  
 “ more frequent, and stronger, on Sa-  
 “ turday, I was sent for at four o’clock  
 “ in the afternoon, when I found the os  
 “ uteri lying very high, and dilated to  
 “ the size of a half crown. By eight  
 “ o’clock it was dilated to the size of a  
 “ crown, and the membranes protruded,  
 “ but no part of the child could be felt.  
 “ The projection of the os sacrum was,  
 “ however, immediately distinguishable,  
 “ making a large mass in the vagina.

“ I intreated the favour of Dr. Os-  
 “ born to see the patient, and to give me  
 “ his opinion of the case. He readily  
 “ complied with my request; and we  
 “ met at about eleven o’clock. Upon  
 “ taking a very accurate examination,  
 “ with a view of ascertaining the exact  
 “ dimensions of the pelvis, Dr. Osborn  
 “ accidentally ruptured the membranes,  
 “ and then we could discover the head  
 “ lying above the brim of the pelvis, and



“ were of opinion that the diameter was  
 “ less than an inch and half from the os  
 “ pubis to the upper part of the os sa-  
 “ crum. It was nevertheless (in con-  
 “ formity to the principle which had  
 “ been laid down by Dr. Osborn, and  
 “ which had succeeded in the case of  
 “ Elizabeth Sherwood, where the dimen-  
 “ sions were smaller) determined to per-  
 “ forate the head. Dr. Osborn com-  
 “ pressed the abdomen, so as to keep the  
 “ head steady, whilst I perforated it at  
 “ the lambdoidal suture, which Dr. Os-  
 “ born had discovered when the mem-  
 “ branes broke, and pointed out the si-  
 “ tuation of to me. Having made the  
 “ opening as large as the great degree of  
 “ deformity would permit, I evacuated  
 “ as much of the brain as I could, with  
 “ the small end of a spoon. Having  
 “ done this, and having desired the wo-  
 “ man to remain as much as was possible  
 “ in an erect posture, to favour the eva-



“ cuation of the brain, we left her during  
 “ the night, to wait for the full effect of  
 “ the labour-pains, and of any dispo-  
 “ sition to putrefaction which might come  
 “ on, in order that the head might col-  
 “ lapse more easily. Her pains were ex-  
 “ ceedingly strong and frequent during  
 “ the night; and I was again called to  
 “ her at six o’clock in the morning (No-  
 “ vember 6); when I found that more of  
 “ the brain had been discharged in the  
 “ night, which had diminished the bulk  
 “ of the head, part of which was beginning  
 “ to enter the superior aperture of the  
 “ pelvis; but the whole basis of the skull  
 “ was still above the brim. I introduced  
 “ the blunt hook into the opening which I  
 “ had made, and endeavoured to bring the  
 “ head along, but found it not practicable  
 “ by such a degree of force as I thought  
 “ to be consistent with the safety of the  
 “ patient. I next attempted to pick away  
 “ part of the parietes of the skull; but



“ although in the night they had lost  
 “ considerably of their firmness, they ad-  
 “ hered very strongly to the dura mater,  
 “ and to the integuments on the out-  
 “ side. I therefore, partly by my fin-  
 “ gers, and partly by the blunt hook, se-  
 “ parated them from the bones; by which  
 “ means I think that I gained some ad-  
 “ vantage, because I was now able to  
 “ bring away part of the bones com-  
 “ posing the sides of the cranium. Hav-  
 “ ing thus diminished considerably the  
 “ bulk of the head, I got the blunt hook  
 “ firmly fixed in the foramen magnum,  
 “ and by a regular, commanded force,  
 “ resting at intervals, I was enabled to  
 “ deliver the head in about twenty mi-  
 “ nutes, or half an hour. The body, as  
 “ it allowed of more compression, came  
 “ away comparatively with ease, and the  
 “ placenta followed in about ten mi-  
 “ nutes.

“ About two hours after her delivery,



“ she fell into an hysterical convulsion ;  
 “ owing perhaps, in some measure, to the  
 “ fatigue of her labour ; and probably also  
 “ to twenty drops of tinctura thebaica  
 “ which she had taken. In the course  
 “ of the day she had some slight degree  
 “ of pain in the belly. She was ordered  
 “ to take the saline mixture every four  
 “ hours, with Hoffman’s anodyne liquor.

“ Nov. 7. She had slept in the night,  
 “ and the pain in the abdomen was easier  
 “ this morning. Her pulse was frequent  
 “ to 116, but she has naturally a fre-  
 “ quent pulse ; and she had no other  
 “ symptoms of fever. She complained,  
 “ this morning, of some pain in making  
 “ water. She was ordered to take a lax-  
 “ ative medicine, which operated three  
 “ times.

“ Nov. 8. She had slept well in the  
 “ night. The pain in the abdomen, and  
 “ that on making water, were much bet-  
 “ ter this morning. Her tongue had a



“ natural appearance, and she had no  
 “ heat, nor thirst. At night, when I  
 “ called upon her, I found her sitting by  
 “ the fire whilst her bed was making.

“ Nov. 9. She repeated her opening  
 “ medicine, and was still mending.

“ Nov. 10. She informed me this morn-  
 “ ing, that she was free from all com-  
 “ plaints; and she sat up for an hour at  
 “ night without fatigue.

“ From this time she had no com-  
 “ plaints of any kind. During the whole  
 “ of her confinement, she lived upon ve-  
 “ getable food and puddings, and took a  
 “ laxative medicine every second day.

“ Such were the circumstances attend-  
 “ ing these two cases; upon which I have  
 “ no other remark to make, than that in  
 “ neither of them was the delivery at-  
 “ tended with any great degree of dif-  
 “ ficulty; nor did the management of  
 “ them require any extraordinary skill  
 “ or dexterity. The great intention of



“ bringing them forward, is to prove that  
 “ it is possible to deliver a child, when  
 “ the head is lessened, through almost  
 “ any pelvis, however small its dimen-  
 “ sions may be; and therefore, that the  
 “ Cæsarean operation can hardly become  
 “ necessary simply on account of the di-  
 “ minution of the capacity of the pelvis.”



## ESSAY VI.

*On the* DIVISION *of the* SYMPHYSIS PUBIS.

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### SECTION I.

HOWEVER successful the Cæsarean operation, if early performed, must be to the child; and however successful, in one or two modern instances on the Continent, it may have proved to the mother; the immediate cruelty of the performance, and the little probability of safety to the unhappy patient, have rendered its prevention a great desideratum in practical midwifery.

Under such desperate circumstances as have been usually supposed to require



the Cæsarean operation, whatever invention may have a tendency to diminish the danger to the mother, while it has the preservation of the child for its immediate and indispensable object, demands a candid examination from the practitioner of midwifery, and has a fair claim to the gratitude of the public.

The section or division of the symphysis pubis, has been lately invented and performed at Paris for that purpose, with some ingenuity and much humanity, by Mons. Sigault, a physician practising midwifery in that city. It was intended by the inventor invariably to supersede the Cæsarean operation: how far that was a reasonable expectation, even upon theory, and how far it may be entitled to any praise from experience, are to be the objects of the following enquiry. It is not perhaps very easy to explain by what fatality it has happened; but there is certainly no account of the invention of any



remedy in the records of medicine, or of any new operation in the practice of surgery, which has been attended at its outset with such extraordinary circumstances, or has been ushered into the world with such singular applause.

The division of the symphysis pubis was not offered to the consideration of the practitioners of midwifery in the usual way of an hint or experiment, to be confirmed or rejected, as future experience might warrant; but upon the very first performance, it was immediately, and most enthusiastically adopted, by a numerous body of learned men, the *Faculté de Médecine de Paris*, or *College of Physicians* in that city; who by their conduct on this occasion seem to have thought, that it was impossible to be too prodigal of their praise, or too profuse in their rewards; for upon the report, by their committee,

T



of the accomplishment of the cure of the first patient, they framed a resolution, not merely expressive of their approbation, but conveying the most extravagant compliments to Mons. Sigault,\*

\* “ Primo tentamini interfuerit Ordo Saluberrimus;  
 “ mox quibus honoribus tam egregiè ausos prospero  
 “ beatos successu, ipse, plaudentibus omnium ordinum  
 “ civibus, *auxerit, ornaverit, cumulaverit.*”

*Roussel. lib. citat. p. 111.*

The whole resolution is too curious to be omitted.

“ Collegæ clarissimo M. Sigault, operationis illius  
 “ inventori, defensori, actori, eò majora deberi pro-  
 “ fessa est saluberrima facultas, quo majus arti medicæ  
 “ dedit incrementum, quo præstantiora fecit ingenio,  
 “ manu, et opibus erogatis; justum in sua non esse po-  
 “ testate præmium *Civium Conservatori*; in honore  
 “ semper apud se futurum eximium illum Collegam,  
 “ et omnibus presentibus ac posteris commendandum  
 “ laudandumque voluit. Quæ propter jussit in calculi  
 “ argentei aversâ facie incidendam esse hanc inscrip-  
 “ tionem.”

“ *Anno 1768 Sectionem Symphyseos ossium pubis in-*  
 “ *venit, proposuit: Anno 1777 fecit feliciter M. Sigault,*  
 “ *D. M. P. Ipsique centum calculos illos esse offerendos.*  
 “ Cum vero, predicante M. Sigault constet Collegam



by concluding it with an order for a MEDAL to be struck upon the occasion; describing the time, place, and person, when and by whom this invention was contrived and executed, and upon whom, as the preserver of his fellow-citizens, they expressly say, it is not in their power to bestow a reward adequate to his merit. By these means was this great and momentous event to be announced to the present generation, and afterwards to be handed down to the remotest posterity. Last of all, that substantial reward might accompany empty praise, a royal pension was procured for Mons. Sigault.\*

“ alium, M. Alphonsum le Roy, suis experimentis,  
 “ suis laboribus, adhortationibus, operationis faciendæ,  
 “ absolvendi partûs et vulneris sanandi partem haud  
 “ ingloriam fuisse, jussit Ordo Saluberrimus, ad finem  
 “ inscriptionis hæc addenda esse verba.

“ *Fuivit M. Alphonsus Le Loy, D. M. P.*

“ Cui quinquaginta offerentur calculi illi argentei.”

*Vid. Res Gestæ, p. 10, 11, et seq.*

\* Tout le monde sait que la Faculté de Medicine de



These circumstances bestowed a lustre and an importance on the operation, to which, by its own intrinsic merit, it was by no means entitled, and without which, in all probability, it would very soon have dwindled into deserved obscurity.

One cannot however be surprised, that circumstances like these should induce most favourable prepossessions in the opinion of the inhabitants and practitioners of any country, wherever they might happen ; much less can one wonder at their effect in France, where, in all affairs of life, it is well known to form a prevailing part of the national character, to be much under the influence of the imagination. The new operation was therefore immediately adopted, as a great improvement, throughout that kingdom. But the splendour with which it made

Paris a fait frapper une medaille à M. Sigault, et que celui-ci a obtenu *une pension du gouvernement.*

*Baudeloque l'Art des Accouchemens, Vol. II. p. 236.*



its first appearance was not confined to France, it soon extended over other parts of the continent ; first dazzling the fancy, and then seducing the judgment, even of our cautious and learned neighbours, both in Holland and Germany. The celebrated Professor Camper, of Groningen, a name pre-eminent in the learned world, having early indulged the most sanguine hopes of its success upon theory, while in Germany, the operation itself was actually performed by the President Seibold, of the university of Wurtzburg, and Professor Guerard, of the university of Dusseldorpe.

Though we can scarcely be surprised, at the speedy and general adoption of this new operation throughout Europe, from the circumstances attending its introduction ; it is impossible to mention without censure, the unphilosophical precipitation of the College of Physicians at Paris on this occasion, to which alone



the frequent repetition of the practice is to be attributed ; and for the consequences of which, they alone are responsible. If a single successful case in any branch of medicine, however extraordinary, were to entitle a man to the splendid rewards granted to Mons. Sigault, but especially to a MEDAL, every practitioner might reasonably expect to have his name handed down to posterity !

Such are the powers of nature, so active and vigorous in certain constitutions is the *vis medicatrix*, or that principle in animal bodies which restores the machine when put out of order by accident or disease ; and especially that ability to resist the fatal effects of violence, in whatever manner offered to the body, that there is scarcely a situation to which it can be reduced, however alarming, where instances of most unexpected recovery have not happened. No discreet or sober-minded man, however personally inte-



rested in the event, is therefore very sanguine in his expectation, from the successful issue of a single case, be the cure ever so complete. If the credit and interest of an individual, which must be reasonably supposed, and even allowed, somewhat to bias his judgment, would not justify him in the hasty adoption, and unqualified recommendation of any method on such ground, how is it possible on this occasion, to reconcile with ordinary prudence and discretion, the conduct of the College of Physicians at Paris? Instead of that severe and critical examination, becoming grave and learned men, previous to the adoption of any novelty, they first, with great parade, promulgate to the world, and then sanctify by their authority, on the slight evidence of a hair-breadth escape, an innovation on the established practice, painful and hazardous to a great degree in the very performance, precarious in its beneficial



effects, and most dangerous in its future consequences; an innovation, which does not appear to have been required by necessity, but which nothing less than the last necessity could justify or excuse. If candour requires of us, that we give them credit for the best intention in rewarding present merit, to stimulate to future exertions of industry and ingenuity, for the benefit of society; at least their peculiar station and duty required of THEM, to be extremely circumspect in the disposal of such rewards; otherwise, instead of promoting the interest of humanity, they would only thereby urge and encourage, ignorant, adventurous, or enterprising men, to rash and dangerous undertakings; the prevention of which was one principal object that all governments have had in contemplation, by the institution of medical colleges, or corporations.

Very much to the credit of the prac-



tioners of this country, and a strong proof of that sound sense and sobriety of judgment, which in all affairs of life characterize this nation; this new-fangled operation, notwithstanding the alluring representation of its partizans, and which the President Seibold declares\* with regret first seduced him, as far as I have been able to learn, has never been performed in this kingdom, except in one instance; where the circumstances of the case, however favourable for the performance of the Cæsarean operation, could upon no grounds justify this. The event, as might reasonably be expected, was fatal to the woman, and the child was born dead.

\* “ Je regrettai vivement, comme je m’en repens  
 “ peut-etre encore de m’etre laissé seduire *aux Appas*  
 “ de l’operation nouvelle.”

*See a Letter from Mr. Seibold to the Royal Academy,  
 quoted by Baudeloque, l’Art des Accouch. Vol. II.  
 p. 251.*



I believe we are much indebted for its prevention likewise, to the early interference of a man of great experience, abilities, and reputation; whose superiority in anatomical and obstetrical science is universally acknowledged all over Europe, and whose opinion is deservedly resorted to, as the highest authority in this country. The women of Great Britain are therefore under considerable obligation to the late Dr. William Hunter; who from an accurate mensuration of those pelves where the Cæsarean operation had actually been performed in this country, and of others still smaller preserved in his museum, has demonstrated the futility of the section of the symphysis, as a succedaneum for that operation, or as a certain means of preserving both mother and child. He has besides, with great good sense, and professional knowledge, and above all, with an earnestness for the interests of huma-



nity, which invariably marked his character throughout life, endeavoured to counteract the intemperate praise of the College of Physicians at Paris, and prevent its influence in this country.

After stating above, that this operation had never been performed in Great Britain, it may here reasonably be asked, why then is it necessary to publish objections against what may probably never happen? To this I beg leave to answer, that although Dr. Hunter reprobrates the section, as a substitute for the Cæsarean operation, and expresses his doubts of its ever being of general use, and cautions against its precipitate admission; yet he describes a supposed case, where he thinks it might be “a CONSIDERABLE IMPROVEMENT in practice.”

Very lately too another practitioner of this country, of considerable abilities and reputation, has declared in a popular book, that “he is inclined to think



“ FAVOURABLY of this operation ;” while however he sensibly and candidly acknowledges, that “ nothing but time “ and future experience can sufficiently “ determine whether it ought to be re- “ jected or adopted.” But as he afterwards states, at considerable length, all the objections which had then been urged against it, enters minutely into their discussion, and professes to have answered them fully ; at the same time describing an experiment made at a public hospital, in the presence of several medical gentlemen, in confirmation of his arguments against what had been generally esteemed a most material objection ; Dr. Leake must be considered as a favourer, or adviser, if not a strenuous partizan, of this new operation.

It is my intention then, by this publication, in the first instance, to consider, if Dr. Hunter’s opinion be well founded, that the operation, qualified by



the circumstances which he describes, or supposes, can ever be “ A CONSIDERABLE “ IMPROVEMENT” in practical midwifery ; and afterwards, to examine the arguments produced by Dr. Leake, in form of answer to the objections, but which are evidently intended to operate in general and positive favour of this operation, as a substitute for the Cæsarean section ; and thus I shall endeavour to counteract the influence which authorities might otherwise have in this country.

Lastly, as infinitely the most important, I shall collect, and present to the reader, the result of the experience of five years, during which period this operation had been performed at least four-and-twenty times in different parts of Europe. These cases had not happened when Dr. Hunter wrote on this subject ; and concerning most of them, Dr. Leake, by not mentioning them, should appear not to have been informed at all ; and of



some he has certainly been much misinformed, particularly that of the President Seibold, of Wurtzburg, transmitted to him by Dr. Hauseman, of Brunswick; or I am persuaded Dr. Leake would not have described it as a *successful* case, or offered it to the public as favourable evidence in support of the operation.

Upon the event of these cases must the merit of the practice rest: but as no particular account of this operation has been published in this country, and as it has engaged the attention, and divided the opinion, of physicians in many parts of Europe, before I describe the cases in which it has been performed (and concerning which, as was my indispensable duty, I have spared no pains to procure the best information), I shall premise a short historical detail and review of the invention and progress of this operation, from the first idea, offered by Mons. Sigault to the Royal Academy of



Surgery in 1768, to the latest publication which has come to my knowledge; from a persuasion, that such an account will not be unacceptable to many of my readers; promising however to compress it into the smallest possible volume, consistently with perspicuity, and the avowed impartiality of this Essay, which obliges me to consider and candidly examine the arguments adduced in favour, as well as the objections urged against the operation.

It does not necessarily fall within my intention to consider at all, much less to decide a question, which has been repeatedly discussed by writers on midwifery, from the days of Hippocrates to the present times, viz. whether the junctions of the bones which compose the pelvis, actually relax and stretch, so as to enlarge its capacity during parturition? It may however be proper just to state, that as anatomical observa-



tion demonstrates, the intervening cartilages and connecting ligaments of the pelvis do invariably become softer, and less capable to resist any distending force as parturition approaches, and that soon after parturition has taken place, they are again restored to their pristine firmness ; so it must be presumed, that this general effect of relaxation is either intended by nature to answer some useful purpose at all times in labour, or that otherwise it is meant to prepare the pelvis against some particular exigence, which may occur in some labours, and which then require such an alteration to facilitate delivery. This anatomical observation, and the arguments founded upon it, first suggested the ingenious idea of this operation to Mr. Sigault ; even admitting that Severin Pineau, as some think,\* had recommended the same ope-

\* “ M. Sigault n'est pas le premier qui ait conçu  
 “ l'idée d'agrandir le bassin de la femme dans la vue



ration two hundred years ago. The expressions of Pineau\* are so equivocal (conveying at most but a hint), that Mr. Sigault is undoubtedly entitled to the

“ de le rendre accessible au fœtus ; Severin Pineau  
 “ l’avoit recommandé pres de deux cens ans avant lui,  
 “ dans l’opinion ou il etoit que ce seroit en vain que se  
 “ delateroient l’orifice de la matrice et l’ouverture des  
 “ parties exterieures si les os pubis ne s’ecartotent pour  
 “ le passage de l’enfant.”

*Baudeloque l’Art d’Accouchemens, Vol. II. p. 231.*

\* “ Si enim natura ossa capitis non perfecerit in utero,  
 “ neque suturas ullas his effinxerit, ut deflexis ossibus et  
 “ ut cumque compresso capite fœtus in enixu facilius  
 “ expellantur utero, exeantque foràs: quanto magis in-  
 “ dilatandis maternis ossibus sagax et provida eadem  
 “ erit, contra eorum opinionem qui ista ossa dilatari ne-  
 “ gant. Præterea ignobiliores partes, nobilioribus sem-  
 “ per ministrant et obsequuntur, nec non continentes,  
 “ seu externæ, non tantum dilatari, sed etiam secari tuto  
 “ possunt, ut internis succuratur, ut Galenus ait. At  
 “ nemo sane est mediocriter in medicina versatus, qui  
 “ non noverit pueros in utero contentos multo nobiliores  
 “ esse maternis ossibus, pelvim, ut vulgo loquimur,  
 “ constituentibus.”

*Sever. Pinæus, cap. x. Opuseul. et Physiolog. et  
 Anatom. lib. ii.*



credit of the invention; and if a cold compliment can satisfy him, after the extravagant and panegyrical language of his friends and partizans, I should be happy at this opportunity of bearing testimony to the ingenuity and humanity of the idea: at the same time, I must beg to be excused from acknowledging the *divine inspiration* attributed to him on this occasion by Mons. Roussel de Vauzesme: “ Cl. Sigault hæc alta mente  
 “ diu revolvens, solus *divino quasi afflatus*  
 “ *numine* quam monstrarat natura, viam  
 “ ingreditur.”\*

\* Lib. citat. p. 46.



## SECTION II.

TOWARDS the latter end of the year 1768, Mons. Sigault presented a memoire to the Royal Academy of Surgery at Paris, recommending the section or division of the symphysis pubis, as a substitute for the Cæsarean operation.

He says, that he had performed it several times, on dead subjects, and could easily gain an inch by the separation. At first he only modestly proposed to have it tried on some living animals, and then on condemned criminals. The operation, he says farther, had its friends and opposers; but that the more general opinion was against it: and that at first a loose objection was made by the Academy, that the space gained would be inadequate to the purpose; and that the re-union of the bones might be precarious.



At last, however, it was formally referred to Mons. Rufel. He made an unfavourable report, the *memoire* was rejected, and the operation proscribed. Mons. Sigault was not discouraged by this rejection of the Royal Academy, from again defending the same opinion in his thesis, when he graduated at Angers, and repeating it once more at Paris, when he applied for his licence.

This idea of Mons. Sigault was communicated as a piece of medical news, in a letter from Mons. Louis, Secretary to the Royal Academy, to the celebrated Professor Camper of Groningen, which letter was written in March, 1769. It gives an account of the Academy being engaged in considering the Cæsarean operation, in consequence of its having been lately performed twice at Paris, and once with success. Mons. Louis adds a short detail of Mons. Sigault's project, and concludes with saying, " Il se pro-



“ met plus d'avantages qu'il se pour-  
 “ roit vraisemblablement en retirer, et il  
 “ n'a pas assez estimé les dangers,” &c.

In an historical detail of any subject, it seems most regular to give a succinct analysis of the authors *seriatim*, as they published their works. I intend to pursue that method, as far as they seem to me worthy of notice, or as I have been able to procure the books themselves, or any good account of them. In conformity therefore with that plan, I must next review Professor Camper's letter to Mons. Van Gesscher, although it interrupts the account of Mons. Sigault, the inventor. This letter was first published in the Dutch language, and was afterwards translated into Latin by the author himself, and reprinted with his Treatise on Inoculation for the Small-pox, in 1774, three years before the operation was performed by Mons. Sigault. It is entitled *De Emolumentis Sectionis Syn-*



chondroseos Ossium Pubis in Partu Difficili. Professor Camper, not less distinguished for the universality of his learning,\* than for his abilities as a physician, begins his letter with some fanciful opinions of his own, respecting difficult parturition in Holland, and a recital of some whimsical ideas collected by Haller from different travellers, tending to establish a general opinion, that in some countries well-formed women naturally bear children better than in others. He highly commends the vectis and forceps, as generally superseding in Holland the use of the crotchet; but acknowledges, however, that he has sometimes been compelled to open the child's head, and deliver with that instrument; adding, with great humanity, "*Nunquam sine summo*  
*" animi dolore illis circumstantiis remi-*  
*" niscor: etiamsi conscientia mea nun-*  
*" quam me accuset de ulla imprudentia*

\* See a Catalogue of his works, published in 1779.



“ vel crimine.—Certam tandem, dum-  
 “ modo possibile sit, excogitem metho-  
 “ dum, qua capitis demolitionem per  
 “ uncum, æque atque Cæsaream sectio-  
 “ nem evitare possim!” \* This method  
 he supposes the section of the symphysis  
 would infallibly prove.

He had himself taken notice, twelve  
 years ago, in a dissertation added to his  
 edition of Mauriceau's works, published  
 in Holland in 1759; that “ Natura ipsa  
 “ monstraverit viam relaxando, et sepa-  
 “ rando a se invicem ossa pubis in om-  
 “ nibus fere difficilibus partibus;” † and  
 again, on the same subject, ‡ “ Basin  
 “ meæ propositionis hæc inniti expe-  
 “ rientia ; quod natura ipsa nos doceat  
 “ separatione ossium pubis insignem dila-  
 “ tationem et spatium pelvi conciliare.”  
 He then expresses his satisfaction at the  
 discovery (as corresponding with his own  
 opinion) and his gratitude for the inventor,

\* P. 122. lib. citat.

† P. 123.

‡ P. 164.



in the following terms of admiration:  
 “ Tanto perfusus gaudio inventorem  
 “ ambabus ulnis amplecti voluissem, si li-  
 “ cuisset ab ore ejus *excellentissimam* hanc  
 “ cogitationem, vel schema accipere!”\*  
 &c. And after informing his readers,  
 that he had long quitted the practice of  
 midwifery, and was not in a situation to  
 derive any lucrative advantage from the  
 discovery, that the most benevolent mo-  
 tives could alone, therefore, urge him to  
 exclaim, “ Nihil præter aliorum bonum,  
 “ nihil præter universam utilitatem, ni-  
 “ hil præter concivium meorum salutem,  
 “ me tanti poterat participem reddere gau-  
 “ dii, tanti inquam gaudii, quanto nemo  
 “ adfici potest, quam cujus animus justa  
 “ facile commovetur misericordia!”†

Mr. Camper, in the first place, endea-  
 voured to remove an objection early sug-  
 gested by the Royal Academy of Surgery,  
 and mentioned by Mons. Louis in his

\* P. 130.      † P. 131.



letter, viz. the uncertainty of the re-union of the ossa pubis. This re-union, however, he ascertained beyond a possibility of doubt, by procuring the operation to be performed on a sow, by Professor Municks, Dr. Allardi, and Mr. Woldering: the creature was well, and able to walk, in eight days. He likewise demonstrated, in the dissecting room, that a considerable space might certainly be gained by the section; for that a child which could not be made to pass through the pelvis, with the bones united, was readily and easily extracted after the division of the symphysis had been performed. But the particulars are not sufficiently interesting to be worth relating now, because many experiments have been since made on deformed pelves; and what is infinitely more satisfactory, the operation itself has been several times performed on living subjects.

Professor Camper had not influence to



procure a condemned criminal, which appeared to him the most effectual manner of ascertaining the efficacy of the operation ; he therefore was obliged to be satisfied with the experiments in the dissecting room, and on living animals. He concludes his letter, as far as it particularly relates to this subject, with observing, that there are cases where neither the forceps or the vectis can succeed ; in which he would recommend the section as preferable to the Cæsarean operation, because safer to the mother ; and preferable to the crotchet, because safer to the child. In the case above described, says he, “ Nihil  
 “ restat quam ut matri venter aperiatur,  
 “ vel foetus unco extrahatur, vel ut pro-  
 “ positio mea, tanquam *media via* in usum  
 “ recipiatur et approbetur !”\* &c.

Professor Camper, being tinctured with the same enthusiasm which unaccountably affected all the first partizans of this new

\* P. 186.



operation, has over-rated, beyond all moderation, the advantages to be gained by it, and expressed himself with an extravagance unusual to men of science, but most especially to physicians. What is more extraordinary, he does not appear to have been at all aware of the future inconveniences and dangers, which might reasonably be expected to attend and follow this operation ; dangers which have been in most cases abundantly, and in some too fatally confirmed by experience. His book is nevertheless the work of a man of undoubted science, indefatigable in promoting medical knowledge, and earnestly solicitous for the welfare of mankind.

It cannot be supposed that an operation so new in its manner, so exceptionable in many other respects, and which had been reprobated, and even proscribed, by the Royal Academy of Surgery at Paris, could be presented to



the public, and warmly recommended to general notice, without a critical examination of its merits, without opposition, or indeed without reprehension. Accordingly, Mons. Baudeloque, surgeon, at Paris, and member of the Royal Academy, previous to Mons. Sigault's first operation on Souchot, defended a thesis\* in the public schools of Paris, of which the following is his own analysis. †

“ Apres avoir combattu l'opinion trop  
 “ accrédité des anciens et des modernes,  
 “ sur l'ecartement spontanée des os du  
 “ bassin dans l'accouchement soit naturel,  
 “ ou contre-nature ; et avoir démontré  
 “ son inutilité dans les femmes bien con-  
 “ formées, son insuffisance dans celles  
 “ dont le bassin est vicié, et ses incon-  
 “ veniens dans les unes et dans les au-

\* Ce programme a pour titre : An in partu propter angustiam pelvis impossibili, symphysis ossium pubis secanda ? 1776.

† L'Art des Accouchemens, Tom. II. p. 235.



“ tres, nous nous sommes attachés à  
 “ prouver qu’un écartement plus consi-  
 “ derable, procuré par la section de la  
 “ symphyse du pubis, écartement que  
 “ Mons. Sigault sembloit alors n’évaluer  
 “ qu’à douze ou quinze lignes au plus,  
 “ ne pouvoit rendre le bassin assez spa-  
 “ cieux pour le passage de l’enfant, quand  
 “ sa mauvaise conformation exigeoit ex-  
 “ clusivement l’operation Césarienne.

“ Nous n’avons établi aucun parallele  
 “ entre ces deux opérations, considérées  
 “ du côté de leurs accidens ; parceque  
 “ l’observation n’avoit pas encore fait  
 “ connoître ceux dont la section du pubis  
 “ seroit susceptible. Nous avons pensé  
 “ qu’il suffiroit de faire voir que cette  
 “ nouvelle méthode ne pouvoit ouvrir  
 “ une voie suffisante et assez libre pour  
 “ mettre la vie de l’enfant en sûreté ; et  
 “ que de tous les accidens que paroïs-  
 “ soient devoir la suivre, celui-ci étoit le  
 “ plus grand, puisque le but qu’on se pro-



“ posoit par cette opération étoit de con-  
 “ server l’enfant, en epargnant les jours  
 “ de la mere. L’experience n’a pas tardé  
 “ à confirmer notre jugement: chaque  
 “ essai qu’on a fait de cette méthode,  
 “ *a eu, pour ainsi dire, sa victime* ; et le  
 “ nombre pour le temps, n’en est pas  
 “ petit : effet alarmant des louanges in-  
 “ discreetes qu’on a données à l’auteur de  
 “ cette opération, et de l’enthousiasme  
 “ avec lequel on a exagéré ses faux  
 “ succès.”

Upon Mons. Sigault’s communicating  
 his opinion of this operation to Mr. Al-  
 phonse le Roy, he warmly adopted the  
 idea, and offered his assistance to Mons.  
 Sigault on the first favourable oppor-  
 tunity. This occurred in the following  
 year, viz. September 30, 1777; when a  
 soldier’s wife, named Souchot, fell into  
 labour of her fifth child. In her former  
 labours she had always been delivered  
 of dead children. In the labour pre-



ceding this, Monsieur Sigault proposed first the division of the symphysis, and then the Cæsarean operation, with a view of saving the child ; but both were rejected by ten accoucheurs, physicians, and surgeons ; and the child was turned with great difficulty, and afterwards brought dead into the world. The event of that labour determined Mons. Sigault on this occasion to perform the section without consultation ; Mons. Le Roy alone assisted him. They each have published an account of the operation, the progress of the case, and the completion of the cure ; minutely detailed respecting the symptoms in general, but not very accurately concerning some other essential circumstances ; and to my comprehension the operation was not well understood, as to its probable consequences. Such as it is described, it might be deemed improper to omit. I shall therefore abridge it, by selecting what



appear to me the most important circumstances attending it, from the relation of Mons. Sigault,\* Mons. Le Roy,† or the Committee of the Faculté de Médecine.‡

Mons. Sigault with a common bistory cut through the integuments, and linea alba, beginning the operation at the upper and central part of the symphysis pubis; then introducing his fore-finger as a director, he cut through the ligaments and cartilage; immediately on the completion of which, the two ossa pubis, with a peculiar noise, *spontaneously* separated two inches and a half: this was demonstrable, for Mons. Le Roy laid his four fingers into the opening. Mons. Sigault immediately introduced his hand

\* Mémoire de M. Sigault lu aux Assemblées de la Faculté, &c.

† Recherches Historiques sur la Section de la Symphyse, &c.

‡ Recit. &c. &c. par le Faculté de Médic. de Paris.



into the uterus, broke the membranes, and brought down the feet. Mons. le Roy accomplished the delivery. The whole operation, both section and delivery, was finished in five minutes. The child was born alive. A ligature was applied round the body of the mother, to keep the pelvis firm. The patient having no bad symptom, was left till the next day, when every circumstance continued favourable: she had passed her urine voluntarily twice, there had been no hæmorrhage, and she had suffered little pain.

October the first, being the day of the monthly meeting of the College, Mons. Sigault and Mons. le Roy first described the new operation, entreated that a committee might be appointed to examine into the state of the patient, to superintend the treatment, and report the progress and accomplishment of the cure.



Messrs. Grandelas and Descemet, two eminent accoucheurs, were appointed.

By their first report it appears, that the meatus urinarius was wounded in the operation; and by all the accounts, it further appears, that she went on to the sixth day without any untoward symptom; occasionally, however, suffering considerable pain in the sacro-iliac region of the left side. On that day, however, she was seized with a rigor, which was succeeded by a fever, difficulty of breathing, &c. These symptoms were attributed to irregularity of diet, and uneasiness of mind: they continued during the next day; the discharge per vaginam was very thin, and in great quantity; she suffered acute pain, and the dressings from the wound were for the first time on that day of a black colour. On the 11th and 12th days the discharge was exceedingly increased in quantity, she was become



weak and languid, and her pulse was very quick, low, and irregular. Mons. Sigault having been taken ill, the care of the patient altogether devolved on Mons. le Roy, to whom the case appeared very alarming. On the 15th day, however, she began to recover; but again relapsed: insomuch that on the 21st all the symptoms were aggravated to such a degree, as to induce Mons. le Roy to think she could not survive that night; she had a violent fever, suffered great pain, and the discharge was become so profuse, as even to penetrate through the bed, and was obliged to be caught in a bason. This discharge by analysis was found to be urine. She recovered from this attack, but again relapsed on the 26th day; when she was seized with a difficulty of breathing and rigor, her abdomen was much swelled, and her extremities became cold. The wound however was soon afterwards united, but the involuntary flux of urine



continued occasionally for some days. Soon afterwards, with the assistance of a bandage, she was capable of walking; and on the 60th day from the operation, went to the College of Physicians. No inconvenience now remained, unless that while walking or standing her urine came away involuntarily; but even this inconvenience rarely happened while she continued sitting.

Such is the description of the circumstances, the symptoms, and event, of the first performance of the section of the symphysis pubis, an operation that was to be regarded as one of those great and important discoveries, which was to constitute an *epoch* in the records of medicine, to be commemorated by a *medal*, and rewarded with a *pension*!

I have ventured to call Souchot's case a "hair-breadth escape:" the preceding history of her case, and the express words of Mons. le Roy, fully prove it. I have



likewise ventured to say, that although the symptoms in general were too minutely detailed, many particular and essential ones were inaccurately stated, or slurred over, as if not well understood in their probable consequences, or otherwise meant to be secreted from the attention of the reader. In confirmation of this assertion, I have scarcely the smallest doubt remaining, but that inflammation to such a degree did really take place in the vesica urinaria, as to end in gangrene and slough ; and that the discharge which was so profuse, and by chemical analysis found to be urine, passed through the opening so made, and not by the urethra. The preceding symptoms, the black appearance of the dressings on the seventh day, and the manner in which the discharge then came off, so unlike the usual way of urine passing through the urethra, and indeed so unlike the manner in which it came away before that day, afford toge-



ther the strongest suspicion, if not absolute conviction, that a gangrene of the bladder did then actually take place. Of this there is not the slightest hint, or even suspicion, in any account of the case, although the probability of injury to the bladder constitutes, *a priori*, a most powerful objection against the operation itself, and this grievous consequence, therefore, might reasonably have been expected.

Soon after Mons. Sigault's Memoire and account of the operation had been published at the expence of the College, Mons. Piet, a surgeon at Paris, practising midwifery, Conseiller de l'Academie Royal de Chirurgie, and who had been present at the preceding delivery of Mrs. Souchot, among a great number of other accoucheurs, published a pamphlet,\* in which he is strenuously against the operation, stating " Que cette section nouvelle ne

\* Reflexions sur le Section de le Symphyse du Pubis.  
La Haye et Paris, 1778.



“ peut produire le plus léger avantage  
 “ sans causer des grands desordres ; que  
 “ si elle n’a pas été plus funeste a la  
 “ femme Souchot, c’est qu’elle lui etoit  
 “ inutile ; et qu’enfin l’état de cette femme  
 “ n’est pas, a beaucoup pres, aussi satis-  
 “ faisant qu’on la publié.”

One of the most material observations  
 Mons. Piet makes, is the result of an ex-  
 periment on a dead body ; where the ossa  
 pubis being divided two inches, or twenty-  
 four lines, the small diameter of the pelvis  
 was very little increased, and yet the ilia  
 were separated from the sacrum three  
 lines and a half, great part of the liga-  
 ments were lacerated, and the rest much  
 stretched. He says that three lines only  
 from the pubis to the sacrum can be gained  
 by the section ; therefore where the Cæ-  
 sarean operation is required in conse-  
 quence of the small diameter being con-  
 tracted, the section will not succeed ; and  
 wherever it will, he thinks the forceps



may. Mons. Piet farther states, that the children of Souchot in her former labours were large, while the child of which she was delivered by the division of the symphysis, was so small as to have easily been extracted with the forceps. He further observes, that the remaining fistula of the bladder, which by the by fully confirms my suspicion of the injury done to that part, and her difficulty in walking afterwards, were sufficient proofs that the cure was far from being complete.

Before I quit Mons. Piet, I must beg leave to make an extract, connected with this subject, if not immediately and directly applicable to this place. Mons. Piet says, “Graces au recherches et à  
 “ l’experience des accoucheurs modernes,  
 “ il y a un moyen bien plus doux qu’une  
 “ section pour extraire l’enfant, et qu’on  
 “ peut aller saisir la tête *au detroit supérieure, et amener l’enfant vivant et sans*  
 “ *le moindre lesion.*”



It is reasonable to conclude, that this opinion prevails universally in France, from the following expression of Mons. Sue, upon quoting the above passage from Piet: “ Cette heureuse decouverte  
 “ n'appartenant pas plus à *un accoucheur*  
 “ *qu'à un autre.*\* If this is meant to refer either to the use of the forceps or vectis, or of any other contrivance, before the head of the child has entered the brim of a well-formed pelvis; or to the possibility of bringing by any means a living child, at full maturity, and of the ordinary size, through a contracted or deformed pelvis, like Souchot's, this assertion presents to us no very favourable idea of modern science, or modern practice, in France; for the first is unnecessary, and the attempt not without great danger; while the last is absolutely and utterly impracticable.

\* Essais historiques, &c. sur l'Art des Accouchemens, Tom. I. p. 315.



In the following year, Mons. Alphonse le Roy thought proper to favour the public with his account of this operation, and his opinion of the general merit of the practice.\* Mons. le Roy was probably envious of the high rewards granted to Mons. Sigault, and the pre-eminent station assigned to his colleague by the description upon the medal; for he expressly declares that he has not had his due share of reputation.†

\* Recherches historiques et pratiques sur la Section de la Symphyse de Pubis pratiquée sur le femme Souchot, &c. Paris, 1777. This inquiry has been translated, I think very faithfully, by Dr. Poignand, and published here, and therefore I shall be very short in my account of it.

† In confirmation, Mons. Roussel expresses himself in his account of Mons. le Roy's book, in the following words: "*Quamquam quæstionem sat enucleatè, perscrutatus sit, hæc tamen in eum increpantur, quod nempe collegæ suo M. Sigault, soli inventori, et actori soli, cuncta prope detraxerit, quæ in se, laudis et gloriæ ultra modum cupidus, invidiose refunderet.*" Lib. citat. p. 104.



Mons. le Roy appears deeply tinctured with enthusiasm, considers the division of the symphysis as the greatest discovery of the present age, is outrageously angry with Mons. Piet for daring to speak disrespectfully of this operation, and expressly says of his pamphlet, “Ce titre n’est qu’un voile que cache *tout la malignité possible.*”

Mons. le Roy enters very fully into the inquiry, so often, and as yet so unsatisfactorily instituted, viz. whether the junctions of the bones of the pelvis actually relax and stretch so as to enlarge its capacity during parturition. He is strenuously on the affirmative side; quotes all the authorities, from Hippocrates and Avicenna, to Jaques d’Amboise in the sixteenth century, to Pineau, Riolanus, and all the later authorities.

Mons. le Roy afterwards endeavours to account for the alleged fact in the most whimsical manner, by supposing that a



partial solution of the bones about the pelvis takes place, and that the earthy part of those bones is converted to the use of the foetus.\* An observation too obvious to escape the most superficial reasoner, offers an insuperable objection to this opinion, viz. that the change produced in the state of the pelvis only commences at the approach of labour, when the foetus is already completely formed; the final cause, therefore, assigned to this supposed solution of the bones, must be ill-founded. Besides, the bones of the pelvis are never found softened; and admitting as a fact that the cartilages and ligaments are so, they are invariably restored to their pristine state of strength very soon after delivery, which could not possibly happen, had they been actually deprived of their “*principe solidifiant.*”

\* “Qu’il-se fait pendant la grossesse, sur tout du  
 “coté du bassin, une dissolution du principe solidifiant  
 “de la mere, *au profit de foetus.*”



Mons. le Roy then enters into a minute and tedious detail of Mrs. Souchot's case, corrects some mistakes in the manner of performing the operation, and subsequent treatment; quotes two other successful cases, in confirmation of the utility of this practice, which will be noticed in another section; and then concludes with an opinion sensibly and modestly expressed, that this operation may (when required) be several times repeated on the same patient, with efficacy and safety.



### SECTION III.

SOON after the publication of Mons. le Roy's *Recherches*, &c. and about a year after the first operation, Dr. Hunter favoured the world with his reflections on this subject: they were published in addition to Dr. Vaughan's account of the Cæsarean operation, which had lately been performed at Leicester.\*

I have in a former place expressed my opinion and general approbation of the intention and effect of those reflections; but I then stated that Dr. Hunter had described a case, where he thinks the division of the symphysis pubis might be a considerable improvement; and that one purpose of the present publication was, in the first instance, to enquire whether the case, qualified by the circumstances

\* London Med. Obs. et Enq.



which Dr. Hunter describes, or supposes, ever does, or can exist ; and afterwards to endeavour to prove, that if such a case should really happen, this operation can never be applied to its relief with efficacy and safety ; and thus I hoped to prevent the influence which such opinion and authority might otherwise justly be entitled to, in this country.

After stating his reasons for preferring the use of the crotchet to the division of the symphysis pubis, and saying that nothing but the interests of humanity had urged him to consider this subject, Dr. Hunter proceeds thus: “ I must add, “ after all, that the section of the sym- “ physis may possibly be found to be a “ much better resource than the Cæsarean “ operation, in a very few rare cases, not “ to save the child, but to save the mo- “ ther, which I think a much greater “ object.” And again: “ But supposing “ a case where no success can be expected



“ from the crotch, either on account of  
 “ the extraordinary narrowness of the  
 “ pelvis, or partly from that circum-  
 “ stance, and partly from a great pro-  
 “ jection of the lumbar vertebra over the  
 “ cavity of the pelvis, hardly allowing  
 “ any part of the child to come within  
 “ the safe reach of the crotch; in such  
 “ a case, instead of the Cæsarean section,  
 “ which is dreadful, because so generally  
 “ fatal to the mother, this new operation  
 “ may be found to *give the mother a good*  
 “ *chance for life, and tolerable health*, if it  
 “ will make room sufficient for bringing  
 “ the child within the sphere of the  
 “ crotch. This, though it could only  
 “ be advisable in exceeding few cases,  
 “ *might be a considerable improvement*,  
 “ because it would have the advantage  
 “ over the Cæsarean operation, of saving  
 “ the mother, instead of the child.”

The whole contents of this quotation  
 are founded on a supposed case, which I



believe never did, or can happen. I am persuaded there scarcely ever existed a pregnant woman, with a pelvis so small, and its cavity so contracted, or its upper aperture so much lessened, by the projection of the last lumbar vertebra, as not to allow the child to come “ within the “ safe reach of the crotchets;” but admitting the fact possible, I am convinced that no additional space, which could be gained by the division of the symphysis, “ will make room sufficient, in such a “ pelvis, to bring the child within the “ *safe reach, or sphere of the crotchets.*” The space gained from pubis to sacrum, by the division of the symphysis, may be about four lines, or one-third of an inch, at most; and to procure even that space, the ossa pubis must be separated completely two inches and a half. Wherever the pelvis is so very small, that the Cæsarean operation, according to Dr. Hunter’s opinion, would have become



necessary, it is clearly impossible, that the additional space of four lines should render delivery by the crotchet either safe or practicable.

But when we advert to the maimed and weakened state of the pelvis, and its consequent inability, after the division of the symphysis, to sustain the violence, and repeated exertions, unavoidable in the use of the crotchet ; and at the same time, when we reflect upon the mischief that the soft parts must inevitably suffer from the division, particularly those which lie immediately behind, and in contact with the ossa pubis ; first, by being torn from the bones to which they are naturally connected ; afterwards, by being exposed, for a considerable time, to the external air ; and, last of all, by being pressed against the divided edges of the bones, in the passage of the child's head ; when, I say, all these circumstances are considered, we must conclude, that the



operation in the case supposed by Dr. Hunter, instead of “*giving the mother a good chance for life, and tolerable health,*” will be as certainly fatal to her, as the crotchet must have already proved to the child. The difficulty and extreme danger of this particular situation, though most reasonably to be expected, do not however rest upon assertion, conjecture, or opinion; Professor Guerard’s case (to be related presently) is exactly in point, and confirms by experiment what was to be expected *a priori*. The child’s head, in that case, was opened, after the division of the symphysis had been performed; but the Professor was, notwithstanding, foiled in every attempt to deliver, both by the forceps and crotchet, and the event in the end proved fatal to the mother.\*

\* “ In tantis rerum angustiis, ad ultimum tam diu  
 “ confugerunt remedium, perforarunt nimirum cra-  
 “ nium magno negotio, effluente cerebro cranium pau-  
 “ lulum magis decendebat, unci applicatio locum non



Yet this unfortunate woman's pelvis measured *two inches and a half* from pubis to sacrum; dimensions by no means requiring either the Cæsarean operation, or the section of the symphysis. The event of this case demonstrates, *a fortiori*, the danger and inefficacy of the practice in Dr. Hunter's supposed case, or where the pelvis is so small as to require the Cæsarean operation. It may likewise not be improper to add, that the diameter from pubis to sacrum was in this case only increased *two lines* by the separation of the ossa pubis.\*

To divide the symphysis pubis, merely to make room to destroy the child, and

“ habebat nec non etiam forceps, et licet quidem ossa  
 “ quædam obripiabantur, *caput tamen semper manebat*  
 “ *immotum.*”—Guerard, lib. citat. p. 14.

\* “ Pelvis diametri nunc accuratius lustrare valebant  
 “ et quidem conjugata naturalis erat  $2\frac{1}{2}$  pollicum Paris.  
 “ Eadem diameter ducta promontorio ossis sacri ad  
 “ pubis ossa a se invicem remota, *duabus solummodo*  
 “ *lineis erat major.*”



afterwards extract it with the crotchet, is to defeat the very end and intention of the operation, and to deprive it of the only specious, the only possible excuse, that can be made for it: it is to expose the mother to great pain, and extreme danger, without necessity, and without even the possibility of an equivalent. Notwithstanding the respect I always entertain for Dr. Hunter's opinion, and the diffidence of my own on the comparison, I cannot in this instance but highly disapprove of that trifling and unmanly want of decision, which, while it reprobates the operation upon the principles, and with the view which originally gave rise to it, unaccountably substitutes an imaginary necessity, in order to recommend that practice as a "considerable improvement," which I am bold to say, *no circumstance whatsoever, real or imaginary*, can even render a warrantable operation.



I cannot conclude the review of Dr. Hunter's reflections on this subject, without expressing my astonishment, that a man of his extensive knowledge, and excessive caution, should not have been aware of the injury which the soft parts might suffer in this operation, although such injury seemed obviously to be expected *a priori*, and has been uniformly to a certain degree, and in many instances, even fatally confirmed by experience.

Mons. Roussel de Vauzesme\* in the following year published a Thesis which he had before defended in the schools at Paris. As it contains a very particular and circumstantial account of the operation, and an historical detail of its progress and success, as well as much other curious matter, I hope to be excused for being very particular in my analysis of it.

Mons. Roussel seems to have enter-

\* De Sectione Symphyseos Ossium Pubis admittenda. Paris, 1778.



tained the most extravagant, and the most preposterous opinion of the benefit which was in future to be derived to society by this invention ; he has even exceeded the Faculté de la Medicine in expressions of enthusiasm ; for he sets out with directly or obliquely comparing it to some of those great discoveries, which have so rarely happened, as to form epochs even in the history of the world.

He slightly, and indeed only obliquely, mentions *Columbus*, and particularly the severity of treatment he experienced after his singular discovery of America ; but immediately adds, “ Erras graviter  
 “ si sectionis symphyseos actorem, *gloriæ*  
 “ *inventionis* secure potitum credideris.”  
 He then describes and reprobates the various and improper means used by the adversaries in depreciating this great discovery, and then adds, “ Nil mirum eadem  
 “ *omnes clarorum inventorum* auctores sors  
 “ manet ;” and in direct words compares



the treatment of Mons. Sigault, with the supposed treatment of *Harvey*, on his discovery of the circulation.

He next endeavours to rescue the fame of Mons. Sigault from the envy of the present generation, and to rest it on the opinion of posterity; when, as he expresses it, “*Quem merito apud ultimos*” “*semper collaudandum conjicimus:*” and after stating that some foreign societies have adopted the operation, in conformity with the Faculté de la Médecine at Paris, he prophetically exclaims, “Non longam post elapsam annorum seriem,” “*inter operationes maxime salutiferas annumeretur.*” The whole preface is the most curious composition of extravagance of sentiment and expression, that the most ingenious in the art of puffing (even in that country), can combine together.

Mons. Roussel de Vauzemesme arranges his matter in five distinct chapters. In the first he gives only a short description of the child's head, the pelvis, and a view



of natural labour ; corrects some mistakes, both of the ancients and moderns ; congratulates the world on the discovery of this operation, and promises to shew how nature pointed it out to the discoverer.

In the next chapter, with becoming industry, he collects all the authorities both ancient and modern ; and with considerable ability demonstrates, as he supposes, that the cartilages and ligaments of the pelvis swell and relax during gestation, and by that means the cavity of the pelvis is enlarged to a useful degree in parturition. To account for this effect satisfactorily, he adopts the following whimsical opinion of Mons. le Roy,\* viz.

“ That during gestation, nature seems to  
 “ produce a solution of that principle  
 “ which gives solidity and firmness to the  
 “ body, particularly to the bones and  
 “ cartilages of the pelvis.” He then re-

\* “ Eo tunc tempore *principii solidificantis* solutionem moliri natura videtur.” P. 39.



verts to all the more ancient, and many modern authors, particularly to Mons. Bertin, as the latest and highest authority; and after expressing much surprise, that no person who had acknowledged this fact, should have thought of assisting nature's endeavours by the same means; he at length arrives at the summit of his complimentary climax in the following words, which I must beg leave to repeat: "At tandem Cl. Sigault, D. M. P. hæc  
 "alta mente diu revolvens *solus divino*  
 "quasi afflatus numine quam monstrarat  
 "natura viam ingreditur;" and concludes the chapter with an account of Mons. Sigault's proposal to the Royal Academy, their rejection of it, Mons. le Roy's adoption, &c. all of which have been related before.

In the third chapter he says, that when the deformity of the pelvis is discovered in time to be certainly such, as that a child at full maturity cannot be extracted



through it with safety, he thinks premature labour may be brought on in the seventh or eighth month, in the same manner as has been recommended in uterine hæmorrhages, by Puzos, Trautmann, &c. and which, he further says, has been practised with success, to prevent the Cæsarean operation, in a very small pelvis, by Mons. Vacher de la Feutrie. But he adds, “ If utero gestation is advanced to  
 “ the ninth month, before the deformity  
 “ be discovered, in that case, the section of  
 “ the symphysis pubis is to be immediately  
 “ diately resorted to, as the *only remedy*.”

He next endeavours to ascertain what are the dimensions of the pelvis which require this operation, because not admitting assistance either from the vectis or forceps ; and he states the distance of two inches and a half from pubis to sacrum, as the precise dimensions ; for this reason, because, immediately upon dividing the symphysis, the two ossa pubis will sepa-



rate *two inches and a half*; and by such a separation, the short diameter of the pelvis from pubis to sacrum will be enlarged *six or seven lines*; and he thinks such an additional space will be sufficient to permit any living child to pass through; or at least, that a considerable portion of the head may be squeezed into the opening between the divided ossa pubis, and thus “*quasi per viam regiam et patentem feliciter erumpet infans.*” He then describes a genuine *enclavement*, where the head of the child, having entered the brim of the pelvis, is so impacted in the cavity, that it can neither descend, nor be pushed up: in this case, after the forceps have failed, he recommends the section in preference to the crotchet, calling it “*sola salutis anchora*,” and adds, “*Hæc sola vincit, triumphat.*”

After allowing, however, that in monsters, in extra-uterine conceptions, &c. the Cæsarean operation may be done, he



expresses his earnest wishes that it might be altogether expelled from the present practice ; “ Nos modo in votis vehementur habemus ut oblivione fere perpetua jaceat hæc operatio : ” and both in the text and the notes he contrasts the fatal consequences of the Cæsarean operation, with the mild and beneficent effects of his “ *simplicissima et tutissima simul sectio symphyseos.* ” He concludes the chapter with the usual extravagance of expression ; saying, that now all women “ *nec ægre, nec periculose, divinitus missæ sectionis symphyseos auxilio parturire potuissent.* ”

The fourth chapter contains the method of performing the operation ; which being exactly the same as before described, it is unnecessary to repeat ; except, indeed, that he advises, what to me seems altogether unnecessary, viz. that two assistants should lay their right hands firmly on the ilia, to prevent the violent and



sudden separation, which might otherwise rupture the anterior sacro-iliac ligaments ; an accident, he says, much apprehended by the *Cæsareans*. The delivery is thus accomplished in a few minutes, by his account, *without pain*, and *without danger*. He adds, that perhaps one of the crura clitoridis may be cut, but that neither the bladder nor meatus need be touched, nor any large vessels or nerves necessarily wounded. He then exultingly asks, “ *Quid igitur peracta,*  
“ *pertimescendum? Dolores, rupturas, ef-*  
“ *fusiones, inflammationes, coalitus impos-*  
“ *sibilitatem, delusæ imaginationis phan-*  
“ *tasmata vere dixerim.*” And if any other imaginary dangers alarm, he boldly appeals to experience, as “ *rerum potior*  
“ *magistra,*” to dispel them. How far those alarming symptoms, just described by Mons. Roussel, are to be considered as “ *delusæ imaginationis phantasmata,*” and how far experience, his “ *rerum potior ma-*



“*gistra*,” will stand him in any essential stead to establish his doctrine, or even justify his confident appeal to her, the fatal event of several cases, to be presently recited, will too satisfactorily demonstrate !

Mons. Roussel next describes the particulars of Mrs. Souchot’s case, as already detailed. He then states, that the operation has been performed ten times ; and adds, “*Huc usque res prospere cedentes, jam inventionis eximiæ invidis aut assensum, aut silentium imperant.*” And in a note he describes all these cases, some in a very accurate manner, while others are only slightly mentioned. But the history and event of those cases belong to another Section, where I purpose to collect together all the facts which have come to my knowledge.

Mons. Roussel farther ventures to prognosticate, that the operation may *without*



*danger* be repeated two, three, or even more times, on the same patient.

The last chapter is only a compendious recapitulation of the contents, but with some expressions which ought not to pass unnoticed. After repeating again the circumstances requiring the Cæsarean operation, and giving the preference to the division of the symphysis, and applying to the event of Souchot's case, and the repeated experiments successfully made in various countries, he emphatically exhorts, "*Nova igitur in promptuarium artis accipiatur operatio quæ cito et tuto perficitur, quam ipsamet natura commonstrat, expostulat, adjuvat; quæ foetum in auras vitales evocat, nullo parturientis discrimine,*" &c. and again repeats, "that nature points out this operation; and that experience, by the happiest effects, has confirmed its utility."



Such are the chief contents of Mons. Roussel's book; which I must confess is the defence of an able advocate, who avails himself of all sorts of means in favour of his client, and a bad cause; and who makes ample amends for every deficiency of proof, by bold assertions, and panegyrical declamation: for were all his extravagant accounts of the beneficial effects of this new-fangled operation to be collected together, and considered as genuine evidence, it would be the *safest, easiest, and most perfect remedy* ever invented by the ingenuity of man.



#### SECTION IV.

DR. J. C. LODER, Professor of Anatomy, Midwifery, &c. at Jena, was so obliging as to favour me with his Dissertation\* on this subject. It is a very able and ingenious defence of this operation, founded upon theory, and a very accurate anatomical knowledge of the parts concerned. But the Professor, never having performed the operation, and of course not knowing the material objections from experience, I trust his candour will not permit him to expect much respect to be paid to his theoretical recommendation at this time, when

\* I had before seen an abstract of it in the New Bibliotheca Chirurgica, published by S. H. de Vigiliis Von Creutzenfeld, in 1781, at Vienna, which he had taken from Richter's Chirurg. Bibl. where it had been highly recommended as an accurate treatise on the subject.



the operation has been tried between twenty and thirty times, under all the real and different circumstances supposed by the partizans to require and justify it.

Professor Loder seems to have entertained the same unaccountable predilection for this new operation, that all the other early partizans did, and which first induced him to adopt the same extravagant expressions ; as, “ Primo inde  
 “ tempore quo mihi innotuit, *utilissimis*  
 “ *nostri ævi inventis* adnumerandum esse  
 “ censui:” adding, “ Et nunc minime  
 “ dubia aliorum experientia confirmatus  
 “ methodi hujus *præstantiam*, quantum,”  
 &c. and which afterwards prevented him from supposing any danger could happen from it ; otherwise he certainly would not have recommended it in the following manner, instead of the forceps. After quoting from Stein an opinion, that the Cæsarean operation is always necessary when the small diameter of the pelvis



does not exceed three inches, he adds,  
 “ Nec ubi tres pollices et dimidium, mi-  
 “ nor pelvis diameter æquet, forcipi lo-  
 “ cum esse credimus, *sed potius syn-*  
 “ *chondroseos dissectionem commendamus.*”

And he afterwards speaks of the *febricula* only, which may succeed the operation. He then recites Mons. Sigault’s and Professor Seibold’s cases, and which he thinks combined with Camper’s experiments:  
 “ Satis demonstrant, quantum utilitatem  
 “ ostendat Sigaultiana sectio, quibus in  
 “ casibus præcipue *commendanda sit,*  
 “ *quantisque laudibus extollendus sit ejus*  
 “ *inventor quem, si qua meritorum justa*  
 “ *sit æstimatio, humanum genus hac ista*  
 “ *privare nequit.*”

Dr. Emanuel Bentely chose this operation\* for the subject of his inaugural Thesis, when he graduated at Strasburg, in the year 1779.

Dr. Bentely begins with a minute and

\* De Sectione Synchronoseos Ossium Pubis.



accurate description of the union of the bones of the pelvis: he particularly endeavours to ascertain that the intervening cartilages differ from the cartilages placed between the vertebræ of the spine; and after describing all the ligaments which unite the bones of the pelvis, from Weitbreght's *Syndesmologia*, he recites the arguments and authorities for the bones separating in labour, upon which this operation was first founded. He is disposed to believe, that although the ossa pubis may be separated one inch and a half, or even two inches, yet the space gained in the diameter from pubis to sacrum will never exceed four lines. To ascertain that fact he holds to be of the first importance towards determining the merit of the operation, and therefore gives eleven experiments; five made by Ripping, in the Hotel Dieu, at Paris; and six by Professor Lobstein, at Strasburg; all of which appear to have been accu-



rately made, and faithfully described. In the five experiments made by Mons. Ripping,\* he never gained quite four lines from pubis to sacrum; and in the six experiments made by Professor Lobstein, it appears, that in one only he gained three lines, and in that case the ossa pubis were separated two inches and a quarter; but that by extreme violence separating them three inches, he gained six lines, or half an inch; but then he observes, all the soft parts attached to the arch of the pelvis were torn open, as well as the ligamentous membrane uniting the ilia and sacrum. Two of these experiments being made on the bodies of women, one of whom died in child-bed, and the other during utero-gestation, and therefore in point, I have subjoined below the whole description of them; not only to prevent any mistake, but likewise as a satisfactory

\* Ripping, Dissert, sistens quasdam de Pelvi Animadversiones. Ludg. Batav. 1776.



specimen of the accurate manner in which they are made.\*

\* “ In fœmina 22 circiter annorum, sexto fere mense  
 “ graviditatis, hydrope mortua statim post mortem sec-  
 “ tio Cæsarea instituebatur, fœtus autem jamjam mor-  
 “ tuus extrahebatur; quo facto dein symphysin ossium  
 “ pubis lustrando, eorum ossium mobilitas clare obser-  
 “ vabatur.

“ Facta nunc sectione ossium pubis absque ulla læ-  
 “ sione partium subjacentium, pubis ossa sponte a se  
 “ invicem secedebant 4 lin.

“ Levi femorum diductione ad 1 poll.  $4\frac{1}{2}$  lin.

“ Majori diductione = 2 poll. 4 lin.

“ Partes tunc subtus jacentes in extremo fissionis peri-  
 “ culo versabantur.

“ Aperto cadavere diametri naturales pubis ossibus  
 “ ad se invicem adductis tales erant.

“ In apertura superiori.

“ Conjugata = 3 poll. 9 lin.

“ Transversa = 5 poll. 1 lin.

“ Obliqua = 4 poll. 8 lin.

“ In apertura inferiori.

“ Transversa = 3 poll. 11 lin.

“ Diductis pubis ossibus ad 2 poll. 3 lin.

“ Diametri tunc sic sese habebant.

“ In apertura superiori.

“ Conjugata = 4 poll.

“ Transversa = 5 poll. 6 lin.



Dr. Bentely recites all the common objections to this operation, such as the

“ Obliqua = 5 poll. 6 lin.

“ In apertura inferiori.

“ Transversa = 4 poll. 11 lin.

“ Diductis pubis ossibus ad 3 poll.

“ Diametri erant in apertura superiori.

“ Conjugata = 4 poll. 3 lin.

“ Transversa = 5 poll. 9 lin.

“ In apertura inferiori.

“ Transversa = 5 poll. 3 lin.

“ Disruptæ autem tunc reperiiebantur hinc inde partes

“ molles arcui ossium pubis subjacentes, nec non etiam

“ membrana illa ligamentosa synchondrosin sacro-iliacam

“ intus in pelvis cavo obvolvens.

“ Institutum fuit in puerpera octavo die post partum  
“ mortua.

“ Diametri naturales erant sequentes.

“ In apertura superiori.

“ Conjugata = 3 poll. 10 lin.

“ Transversa = 5 poll. 3 lin.

“ In apertura inferiori.

“ Transversa = 4 poll. 6 lin.

“ Facta sectione, diductisque pubis ossibus ad 1 poll.

“ Conjugata erat = 3 poll. 11 lin.

“ Transversa = 5 poll. 8 lin.



difficulty and danger of the section, the injury likely to ensue to the sacro-iliac joints; the consequent instability of the body, from the weakness of those joints, and of the symphysis pubis, particularly

“ In apertura inferiori.

“ Transversa = 5 poll. 4 lin.

“ Diductis pubis ossibus ad  $1\frac{1}{2}$  poll.

“ Conjugata erat = 3 poll.  $11\frac{1}{2}$  lin.

“ Transversa = 5 poll. 9 lin.

“ In inferiori apertura.

“ Transversa = 5 poll.  $8\frac{1}{2}$  lin.

“ Diductis pubis ossibus ad 2 poll.

“ In apertura superiori.

“ Conjugata erat = 4 poll. 1 lin.

“ Transversa = 5 poll. 10 lin.

“ In apertura inferiori.

“ Transversa = 5 poll. 11 lin.

“ Remotis pubis ossibus ad  $2\frac{1}{2}$  poll.

“ In apertura superiori erat :

“ Conjugata = 4 poll. 2 lin.

“ Transversa = 6 poll. 2 lin.

“ In inferiori apertura.

“ Transversa = 6 poll. 4 lin.

“ Ossa innominata pro ratione diductionis ossium

“ pubis etiam ab osse sacro in antica sui parte se-

“ cedebant seseque ab illo separabant.”



the latter; which Ripping relates continued till death, in all the dogs, except one, that were the subjects of his experiments. I have quoted the passage below from Bentely, as I have not been able to procure Ripping's Dissertation.\* He farther thinks, that if in the operation either the cartilages or the bones be wounded, and the parts are to be made whole by suppuration taking place, and callus forming, it is highly probable that a caries of the bones will ensue, and that the wound will remain fistulous; as was really the case with the woman at Wurtzburg, for near a year after the operation. The union of the bones is greatly prevented, he says, from the difficulty of keeping them without motion a proper time; for the abdominal muscles being

\* “ Prouti Ripping (Diss. cit. § 36. p. 38.) observavit in canibus huicce operationi propositis, in quibus sanatio facta fuit ope substantiæ ligamentosæ ab exteriori et inferiori parte hanc synchondrosin unien-



inserted into the ossa pubis, the slightest motion of these must move one or other of the divided bones. He concludes by saying, that where the contraction of the upper aperture of the diameter from pubis to sacrum is such as to require the Cæsarean operation, the small space of *three or four lines*, which is all that can be gained by the division, will never be sufficient to answer the purpose of that operation. If the contraction be at the lower aperture, and a sufficient space could be certainly procured by it, yet the dangers and difficulties attending it are such, as to render the event very doubtful.

In the same year, 1779, Dr. J. P. Weidmann published his Thesis at Wurtzburg, in Germany.\* He was led to

“tis, intermedio nulla substantia repleto, synchondrosis  
 “etiam semper erat *mobilis usque ad necem*, dum nun-  
 “quam nisi *in uno*, in quo nempe osseam substantiam  
 “læserat, calli vestigium offenderit.” Sect. lvii. p. 61.

\* “Comparatio inter sectionem Cæsariam, et dis-



choose this subject, partly from its novelty and importance, but principally, as he says, from having fortunately had an opportunity of seeing both the Cæsarean operation, and the division of the symphysis, performed by the President Seibold ; whose case of the latter operation we shall have occasion to take more particular notice of hereafter.

Dr. Weidmann, with great modesty, says, he does not pretend absolutely to determine the merits of the two operations ; he only means to offer the two cases to the consideration of his readers, to state and compare the difficulties and dangers, the advantages and inconveniences, of each operation ; hoping that some benefit may be thereby derived both to the profession and to the public ; and that abler and more experienced men,

“ sectionem cartilaginis et ligamentorum pelvis, in partu  
 “ ab pelvis angustiam impossibili, suscipiendas.” Wirec-  
 burgi, 1779.



and of greater proficiency in the art, will bestow their attention upon this subject, and that certain rules for preference may by that means be established.

He first gives a short historical detail of the Cæsarean operation, from the first performance, by Nafer, at Siegershausen, as described by Caspar Bauhin, in his Appendix to Rousetus, even to the cases which happened lately in this country. He then recites the particulars of a case where the Cæsarean operation was performed by the President Seibold, at which he was present, and acted as assistant, and where it ended fatally. He accurately describes the dissection of the body, and particularly the dimensions of the pelvis, by which it appears, there was a space of *two inches and seven lines* from pubis to sacrum. He afterwards gives a short historical detail of the section of the symphysis, in which he corrects some considerable mistakes, in the account of two



or three of the cases to be related in the next Section. He then describes the President Seibold's case of the division of the symphysis, at which he was likewise present, with every possible degree of accuracy, and even to a wearisome minuteness.

He thinks, that if the division of the symphysis ought ever to be performed, it is only where the diameter from pubis to sacrum measures three inches, where the head presents, and is not very large: but even in that case, he asks, “ whether it may not be better to bring on labour at the seventh month? for by that means less danger will be incurred by the mother, and probably the child may be delivered alive.” He says, the Cæsarean operation is indicated in every deformity, where a child cannot by any other means be certainly born alive; thus implying a most injudicious prejudice against the use of the crotchet, and, to



my comprehension, a most unwarrantable predilection for the child's safety, in preference to the mother's; and which he further explains and enforces in his *Positiones ex universa Medicina*, at the end of his Thesis, by saying, "*In fœtum vivum, uncas et perforatoria adigere, nefandum facinus est.*"

While this operation engaged the attention of many ingenious men in Germany, it became a party affair at Paris, between the *Faculté de la Médecine* and the surgeons of that city, as stated by Mons. Sue; who, in taking a comprehensive review of the subject, from the first performance, to the time he wrote, includes an account of Mess. Herritier, Etienne, Pellaton, &c. He particularly describes and reprehends this dispute, but disapproves of the ridicule thrown upon it by an author of some wit; who, in a letter from a supposed countess, proposes to erect a statue to Mons. Sigault,



*“ Ce mortel le plus honoré, et le plus fêté,  
 “ qui eut jamais été.”\**

Mons. Baudeloque† enters very fully into the examination of this subject, and relates the following observations, as the result of a number of experiments made in the Hotel Dieu.

After the division of the symphysis, when the thighs were moderately separated, he says the two ossa pubis were from three to six lines asunder ; and that the ossa pubis never could be separated two inches and a half, without the thighs being brought to right angles with the trunk ; nor without laceration to the sacro-iliac ligaments, which began earlier or later, according to the particular dimensions of the pelvis. In one pelvis, of three inches and a quarter diameter from

\* Essais historiques sur l'Art des Accouchemens, p. 296.

† See l'Art des Accouchemens, Tom. II. p. 230. Paris, 1781.



the os pubis to the sacrum, the ossa pubis were not separated one inch, before the sacro-iliac symphyses were opened, one a line and a half, the other a line; and when the ossa pubis were separated two inches and a half, one of them was open to five lines, and the other to three lines and a half, and the periosteum and ligaments were torn on both sides. And he further observed, that the ossa pubis never were equally removed, and hence the sacro-iliac symphyses were differently opened, from two to seven lines. He likewise says, whenever the external wound was two inches and a half in extent, it was invariably torn both above and below, and sometimes to several fingers breadth. He observes, from the result of his experiments, that the short diameter is increased from four to six lines, by a separation of the ossa pubis to two inches and a half; a space by no means sufficient to make amends for the



disproportion between a child's head and dimensions requiring the Cæsarean operation, especially as the space gained by it could only enlarge the transverse diameter. Mons. Baudeloque however allows, with the partizans of the section, that a greater space may be procured by it in a contracted than in a well-formed pelvis; and that if the small diameter is not naturally more than fourteen or fifteen lines, he thinks nine lines may be gained, if the ossa pubis are separated two inches and a half; but if the child's head is of the usual size, the small diameter, from one parietal bone to the other, is three inches and a half, and thus there will still remain fifteen or sixteen lines more in the volume of the head, than in the capacity of the pelvis, of what essential use then, he asks, can the operation be, even in that deformity?

He then endeavours to discredit Mons. Le Roy's account of his operations, where



in one instance, he says, the side of the child's head, and in another, the occiput, insinuated itself into the opening of the symphysis. He takes great pains to correct a mistake that the partizans of this operation have always made, by supposing, that when a certain space was wanting to either diameter at the upper aperture of the pelvis, if that space was gained, whether to the diameter wanting it, or the other, the benefit would be the same: but the fact, he observes, is undoubtedly otherwise; for no additional space gained to the long diameter will at all make amends for a deficiency in the short one, where it is only wanted. He severely reprehends the President Seibold for his reasoning on the case where he performed this operation, particularly for acknowledging and regretting that he "*(un homme veritablement instruit)*" could not resist the *allurements* of this new method of delivery. He next proves, that



the two ilia must be removed from the sacrum, in proportion as the ossa pubis separate, except at the posterior edge; and he then concludes that this edge, assisted by the position of the body on a hard table, will press the os sacrum inwards, and thus, to a certain degree, this pressure must have a tendency to lessen the short diameter. Mons. Baudeloque, after concluding the proofs of the inadequacy of the operation, to procure a sufficient space to answer the intended purpose, assures the most zealous friends and partizans (notwithstanding Mons. Le Roy's assertion), that it is not prejudice, but conviction, which has induced him to take a decided part against this operation. He then accurately examines the success of the cases which had come to his knowledge; but that part falls into the intention of the next Section. Partly, however, to examine the effects of the operation in a pelvis of such a degree of



deformity as to require the Cæsarean operation, but especially to discredit Mons. Le Roy's case of Belloy (which will be more particularly considered by and by), Mons. Baudeloque recites the following experiment, which, though very long, I hope to be excused for transcribing, as it is singularly and exactly in point, the woman having died after the Cæsarean operation.

“ Cette expérience fut fait a l'Hôtel-  
 “ Dieu de Paris, le 15 Août 1779, en  
 “ présence de M. Moreau, Chirurgien-  
 “ Major du dit Hôpital, de MM. De-  
 “ leurie, Coutuli, Trainel, L'héritier,  
 “ Maîtres en Chirurgie, et d'un grand  
 “ nombre d'élèves, sur une femme qui  
 “ étoit morte le onzieme jour après l'ope-  
 “ ration Césarienne, pratiquée à la ligne  
 “ blanche. Cette femme étoit infiltrée:  
 “ ce qui ne paroîtra pas indifferant à ob-  
 “ server, à cause du relachement des sym-  
 “ physes.



“ Le cadavre étant placé sur le bord  
 “ d’une table, les jambes écartées et sou-  
 “ tenues, comme le recommandent les  
 “ partisans de la section du pubis, nous  
 “ nous assurâmes, par divers procédés, de  
 “ la longueur du petit diamètre du dé-  
 “ troit supérieur, que nous n’évaluâmes  
 “ qu’à *un pouce huit lignes* : on s’assura de  
 “ suite, par le moyen du compas ordinaire  
 “ rapporté au pied de Roi, qu’il n’avoit  
 “ pas davantage, et que le diamètre trans-  
 “ versal étoit de quatre pouces trois lignes.  
 “ On prolongea supérieurement la plaie  
 “ de l’opération Césarienne, afin d’enle-  
 “ ver la matrice, et de pouvoir placer  
 “ dans le bas-ventre un enfant dont on  
 “ engagea les pieds dans le bassin. La  
 “ tête de cet enfant n’avoit que *trois*  
 “ *pouces cinq à six lignes de diamètre,*  
 “ *dans sa plus grande épaisseur trans-*  
 “ *versale,* et le tronc étoit très maigre.  
 “ Nous avons eu le soin d’en pétrir en  
 “ quelque sorte, toutes les parties, et



“ sur-tout la tête, pour leur rendre la  
 “ souplesse que la mort avoit pu leur  
 “ enlever. On entreprit de tirer cet en-  
 “ fant par le pieds; mais il fallut em-  
 “ ployer les plus grandes forces, pour  
 “ faire passer les fesses à travers le dé-  
 “ troit supérieur, quoique dans la direc-  
 “ tion la plus convenable, et pour y en-  
 “ gager la poitrine jusqu’ aux aisselles.  
 “ Ce fut dans ce moment qu’on fit la  
 “ section du pubis.

“ On découvrit la symphyse au moyen  
 “ d’une incision de deux pouces et demi,  
 “ conservant en en-bas la commissure  
 “ antérieure des grandes levres; et supé-  
 “ rieurement une étendu au moins de dix-  
 “ huit à vingt lignes, audessous de l’angle  
 “ inférieur de la plaie de l’opération Cé-  
 “ sarienne, qui étoit dans la même direc-  
 “ tion. On coupa la symphyse avec les  
 “ précautions requises, et les os pubis ne  
 “ s’écartèrent d’abord que de *neuf ligne*,  
 “ malgré le coin que formoit en-dedans.



“ le corps de l'enfant. On augmenta  
 “ cet écartement, le plus graduellement  
 “ possible, *jusqu'à vingt et une ligne*, en  
 “ éloignant les cuisses du sujet: mais  
 “ pour le porter à deux pouces et demi,  
 “ il fallut tirer fortement sur les han-  
 “ ches. Ce fut à ce dernier degré qu'on  
 “ essaya de faire passer la tête, qui s'étoit  
 “ placée d'elle-même dans une direction  
 “ transversale, l'occiput regardant le côté  
 “ gauche du bassin et la face le côté droit ;  
 “ de manière qu'une des bosses pariétales  
 “ répondoit à l'écartement des os pubis,  
 “ et l'autre à la partie latérale gauche de  
 “ la saillie du sacrum ; position sans con-  
 “ tredit, la plus favorable à l'affaissement  
 “ et au passage de la tête.

“ Plusieurs personnes exercèrent leurs  
 “ forces, successivement, sur le tronc de  
 “ l'enfant, et en tirant aussi sur la mâ-  
 “ choire inférieure au moyen de deux  
 “ doigts introduits dans la bouche, sans  
 “ pouvoir faire descendre la tête. Après



“ un quart-d’heure et plus de tentatives  
 “ inutiles, pendant qu’un de mes con-  
 “ freres tiroit de toutes ses forces sur le  
 “ corps de l’enfant, et un autre sur les  
 “ pieds, en observant la meilleure direc-  
 “ tion possible, j’appuyai fortement d’une  
 “ main sur la tête, en la comprimant se-  
 “ lon son épaisseur transversale, et en  
 “ dirigeant mes efforts de maniere à faire  
 “ descendre le menton: ce fut alors  
 “ qu’elle franchit le détroit supérieur.

“ Dans ce moment, l’angle inférieur  
 “ de la division des tégumens se déchira  
 “ jusqu’à la vulve, et l’angle supérieur se  
 “ rapprocha tellement de la plaie de l’opé-  
 “ ration Césarienne, qu’il s’en fallut peu  
 “ que les trois ouvertures n’en fissent  
 “ qu’une. Les symphyses sacro-iliaques,  
 “ déjà entr’ouvertes avec rupture des li-  
 “ gamens et du périoste, au terme de  
 “ vingt et une ligne d’écartement entre  
 “ les os pubis, acheverent de se déchirer ;  
 “ et le firent avec assez de bruit, pour que



“ l'oreille de chaque assistant en fût frap-  
 “ pée. On y mit facilement le pouce en  
 “ travers.

“ Les os pubis, après la sortie de la  
 “ tête, restèrent écartés de l'étendue de  
 “ trois pouces : leur écartement avoit  
 “ sans doute été plus grand au moment  
 “ du passage de celle-ci. L'angle du pu-  
 “ bis droit étoit distant du centre de la  
 “ saillie du sacrum, de deux pouces six  
 “ lignes ; et l'angle du pubis gauche, de  
 “ deux pouces trois lignes seulement : de  
 “ sorte que la largeur naturelle du bassin,  
 “ considérée dans cette direction, s'étoit  
 “ augmentée de dix lignes d'un côté, et  
 “ de sept de l'autre.” \*

\* L'Art des Accouchemens, Tom. II, p. 268, &c.



## SECTION V.

DR. LEAKE, who is one of the latest authors on this subject, and the last whose account of it I have seen, and can of course review, introduces his observations in the following manner. “ Mons. Sigault describes the section of the pubis, and proposes it as a substitute for the Cæsarean operation ; the propriety of which, as well as the objections brought against it, I am desirous to examine with attention and candour ; for little advantage can arise from opinions where men rather contend for superiority than truth. The spirit of enquiry is only commendable when it is exerted for the improvement of science, and solely directed for the public good.” And Dr. Leake then adds, “ But although



“ I am inclined to think favourably of  
 “ this operation, for reasons hereafter as-  
 “ signed, I know that nothing but time, and  
 “ future experience, can sufficiently de-  
 “ termine whether it ought to be adopted  
 “ or rejected.”

These sensible reflections precede Dr. Leake's answers to the objections which he states, as having been brought against the operation; and as he is the only person who in this country has professedly written on the favourable side, and these answers are evidently intended to operate in positive support of the division of the symphysis, by completely removing all objections; I am therefore desirous of examining them with the same temper which appears to have directed Dr. Leake in his researches, and particularly as he recommends, with that  
 “ commendable spirit of enquiry which  
 “ has the improvement of science, and  
 “ the public good, for its immediate ob-



“ject.” In these sentiments, therefore, we join issue; but on the particular subject of our enquiries, I have the misfortune entirely to differ in opinion with Dr. Leake; for while “he is inclined to “think favourably of this operation,” I have insuperable objections to its adoption; and while he wishes for “time and “future experience,” I am convinced, that when Dr. Leake published his book, we were in possession of facts sufficiently numerous and unfavourable, to warrant the absolute rejection of the operation.

Dr. Leake states the five following objections to have been brought against the operation, which he carefully examines, and endeavours to remove.

“First, That the cartilages may happen  
“to be ossified.”

“Secondly, That the neck of the bladder may be wounded.”

“Thirdly, That the space gained by  
“the section of the pubis, may not in a



“ narrow pelvis be sufficient to allow the  
 “ child’s head to descend through the  
 “ cavity.”

“ Fourthly, That the union of the car-  
 “ tilages may not be effected.” And

“ Fifthly, That the internal posterior  
 “ ligaments, uniting the sacrum and ilia,  
 “ may be torn asunder, by dividing the  
 “ bones of the pelvis.”

To these objections Dr. Leake answers, first, that cartilage being a substance essentially distinct from bone, is never found ossified but in a preternatural state, or in old age, after the time of child-bearing is past, and when there never can be occasion for the operation. This is in general undoubtedly true; but most unfortunately, in one of the cases where the operation has been performed, this very accident did happen, for the symphysis was actually ossified in the woman at Wurtzburg, and the President Seibold was obliged to divide it with a



saw ; and in one of the four women I saw opened after death, there was an irregular ossification, or exostosis in the symphysis, which prevented our cutting directly through the cartilage. This is however of trifling consequence.

The second objection is, “ That the  
 “ neck of the bladder may be wounded ;”  
 to which Dr. Leake answers, that “ as it  
 “ is slightly attached by cellular mem-  
 “ brane only, and not in close union with  
 “ the cartilage, there never can be the  
 “ least danger of wounding it, except the  
 “ operator is unskilful, and ignorant of  
 “ the structure and situation of the  
 “ parts.” *A priori*, the presumption is,  
 to be sure, very strong in favour of Dr.  
 Leake’s answer, that this is an accident  
 which could never happen, but from the  
 unskilfulness or ignorance of the ope-  
 rator ; and if we could always command  
 a good anatomist and expert surgeon,  
 who is in the habit of performing the



operation, this accident might certainly be prevented; but there is a first time that every person must do every operation, and what has happened to one, may reasonably be expected to happen to another. Mons. Sigault candidly acknowledges that he did wound the meatus; and it is not likely this operation should fall into better hands, for the first time, than Mess. Sigault and Le Roy, who had both been long engaged in considering it, and were much interested in the event: this objection is therefore entitled to some, but I would readily own, no very great weight.

The third objection is, “ That the  
 “ space gained by the section of the pu-  
 “ bis, may not, in a narrow pelvis, be  
 “ sufficient to allow the child’s head to  
 “ descend through the cavity.” This  
 being an objection of the first magnitude,  
 and which, if established, would infallibly  
 preclude all benefit from the operation, Dr.



Leake has very properly taken great pains effectually to remove it.\* He states, that the opponents generally allow, that the space gained by the aperture, between the divided bones, is nearly two inches and a half; and he confirms it by a case at the Westminster Lying-in Hospital, where a space of two inches and an eighth was actually gained after death, when the parts were cold and rigid; and he has no doubt, he says, that such “additional  
 “space would in general be sufficient to  
 “let the child’s head pass, even in a  
 “pelvis so preternaturally narrow, that  
 “no other means but the Cæsarean operation could be devised for its birth.”

\* As Mons. Alphonse le Roy, and Mons. Roussel de Vauzesme had done before, and nearly in the same manner, the latter particularly thus expresses himself: “Si  
 “una e tuberositatibus parietalibus, aut alia quæcunque  
 “pars capitis intra semotas pubes excipiat, *tum capitis*  
 “*volumen ea portione sublata minuetur.*” And again,  
 “Magnitudini divisionis, quæ capitis partem haud exi-  
 “guam debet excipere.” Lib. cit. p. 73, 74.



Dr. Leake then adverts to what has been observed, he says, by some; “that although  
 “ the long axis of the pelvis may from  
 “ thence be extended from side to side,  
 “ its shortest diameter from sacrum to  
 “ pubis, where additional space is most  
 “ wanted, will not be increased in the  
 “ same proportion, and therefore the  
 “ operation cannot avail.” This, he observes, at first sight, looks like a specious objection, and he labours with considerable ingenuity and ability to remove the weight of it, in the following manner. He supposes that the space of two inches and a half between the divided ossa pubis, will be sufficient to receive the occiput of the child, as it presents at the symphysis; “ It will therefore follow,” (Dr. Leake observes) “ that as much of  
 “ the occiput, or hind-head, as is pro-  
 “ truded into an aperture at the pubis of  
 “ two inches and a half, so much precisely will be the space gained by this



“ operation, and superadded to the short  
 “ axis of the pelvis from sacrum to pubis,  
 “ which will (as he afterwards takes no-  
 “ tice) be equal to the enlargement from  
 “ side to side, the circumstance here con-  
 “ tended for.”

Fairness of argument obliges me to acknowledge, that the admission of the occiput of the child between the divided ossa pubis, is undoubtedly a diminution of the volume of the head, and is therefore precisely tantamount in effect to the enlargement of the short diameter of the pelvis. This circumstance I will therefore allow is fully proved. Yet I will venture to assert that, instead of deriving any advantage from the concession, this fact, so apparently favourable to the operation, and which Dr. Leake contends so strenuously to establish, affords the strongest and most insuperable objection to the operation itself. For if any portion of the child's head protrudes into the



opening between the divided bones, the soft and contiguous parts must necessarily be compressed so long, and with so much violence, between the solid wedge of the child's head on the one side, and the sharp edges of the divided ossa pubis on the other, that irreparable injury must be the almost infallible consequence to the parts so compressed; but particularly to that most important part, the bladder; and probably to that portion of the cervix and os uteri which lies behind and in contact with it, but immediately before the head. It is therefore obvious, that whatever benefit is derived to the child by this means, must be infinitely more than repaid by danger to the mother, as will hereafter be abundantly confirmed by facts.

The partizans of this operation must, as it strikes me, be reduced to this dilemma. If the ossa pubis cannot be separated wide enough to admit the occiput of the child, the space gained to the short



diameter will by no means be sufficient to permit it to pass alive through so small a pelvis as absolutely requires the Cæsarean section; and then the very end and intention of the operation must be infallibly defeated; or otherwise, if the separation of the ossa pubis be such as to receive the hind-head of the child into the aperture, and by that means it be born alive, irretrievable injury will probably ensue to the mother, her future comfort, perhaps her life, may become the sacrifice.

The fourth objection, “ That the union  
“ of the cartilages may not be affected,” although first suggested by such respectable authority as the Royal Academy of Surgeons at Paris, is completely refuted by experience.

The fifth and last objection which Dr. Leake mentions is, “ That the internal  
“ posterior ligaments uniting the sacrum  
“ and ilia may be torn asunder, by dividing the bones of the pelvis.” To



which he answers, “ Respecting the pre-  
 “ tended laceration of the internal poste-  
 “ rior ligaments of the pelvis, uniting the  
 “ sacrum to the ilia, I must refer to the  
 “ case at the Westminster Hospital, al-  
 “ ready recited, where the section of the  
 “ pubis was made in the presence of six-  
 “ teen medical gentlemen, and where,  
 “ notwithstanding the space gained was  
 “ two inches and an eighth, no lace-  
 “ ration, or the least marks of violence,  
 “ appeared ; but, on the contrary, these li-  
 “ gaments were found perfectly firm, and  
 “ in their natural state.” And Dr. Leake  
 supposes, that in the living subject, where  
 “ the solids are more soft and yielding,”  
 even a greater space might be gained,  
 without laceration to those ligaments.

There is so much variety in the ac-  
 counts given, both of the space gained  
 by the section, and the consequent state  
 of the internal posterior ligaments, in  
 living and dead subjects, that it is im-



possible to reconcile them with each other, or perhaps with truth, unless by supposing, that there is a material difference in the original structure of the posterior joints of the pelvis in different women, either with respect to the intervening cartilages, or connecting ligaments, or perhaps both. But most especially there is a material difference between the soft and relaxed state of these parts, at or about the time of parturition, whether a few days before, or some time after it has taken place, compared with their natural strength and firmness at any other period of life. No satisfactory conclusions, therefore, can be drawn from experiments made in the dissecting-room, or anatomical theatre, upon women who have not died immediately preceding, during, or very soon after delivery.

Notwithstanding the variety mentioned above, and that in the woman at the Westminster Hospital, and in four other



women I saw opened (who died in the puerperal state), the ligaments were not at all lacerated, even when the ossa pubis were divided two inches and a half; and if we therefore admit that they may be capable of safely stretching, yet it is impossible for the ossa pubis to be divided to that extent during life, without the ilia being considerably separated from the sacrum, and that separation cannot be effected without the intervening cartilages being detached from the bones; and acute pain must always accompany, and permanent inconvenience frequently succeed such violence; although in general, perhaps, the *vis medicatrix naturæ* may be sufficiently vigorous, under favourable circumstances of constitution, to prevent irretrievable injury. In a good constitution, if the ligaments be not lacerated, a re-union will speedily take place, by a process common in animal bodies, and, after a certain time, perhaps no ma-



terial inconvenience may remain. This is conformable to observation ; for in other joints, recent and apparently great injury, incurred by violence to the cartilages and ligaments, where external air can have no admission, has been easily and speedily recovered ; but in bad habits of body, or where the principle of life is weak, which is very generally the case with rickety and deformed women, the most untoward, troublesome, and even incurable complaints have ensued from much slighter accidents about joints than the separation of cartilage from bone. The mischief which might probably ensue to the posterior joints of the pelvis, from the violent separation of the ossa pubis, afforded, in the opinion of the opponents, the strongest objection upon theory, against this operation. I confess, however, that facts have not confirmed those apprehensions concerning it ; for though it may be entitled to some weight,



we are certainly not warranted by experience to say, that it in general constitutes an essential objection.

Dr. Leake afterwards compares the section of the pubis with the Cæsarean operation, and for many and good reasons gives the preference to the former: but unhappily the two operations never can come into competition; for wherever the dimensions of the pelvis are such as absolutely to require the Cæsarean operation; no additional space to be gained by the division will be sufficient to insure the delivery; otherwise there can be no doubt of its being infinitely the safer and preferable operation.

I have in a former part of this work stated, what in my opinion ought to be the dimensions of the pelvis to justify that operation; by which it must be evident how utterly inadequate, in such a pelvis, any space which can be gained by the division of the symphysis will be to



effect delivery, with a probability of safety to the mother, or a possibility of safety to the child.

Last of all, Dr. Leake proceeds to answer “those persons who vaguely object to the operation,” by telling them that it has already, and may again succeed with such as are disposed to give it a fair and judicious trial; quoting from Mons. Le Roy several examples of success, and concluding with Professor Seibold’s case, so often mentioned. Of the circumstances attending, and the event of those cases, particularly the last, I shall give an accurate account in another Section, that a due estimate may be made of the weight they are entitled to, in support of the operation.

As Dr. Leake is the only person in this country who has avowedly written on the favourable side; and as he has taken great pains completely to obviate all the objections, I have been induced to exa-



mine with attention, and I trust with candour, his answers to the objections, and to consider at some length whether his arguments are conclusive in favour of the operation.

I will now beg leave to offer to the consideration of my readers some other objections, in addition to those stated by Dr. Leake to have been made to the operation, and which are indeed so obviously material, that I own I have been much surprized that they should have escaped the notice of all the authors who have written on the favourable side: neither Mess. Sigault, Le Roy, Camper, Dr. Leake, nor even Dr. Hunter, give the slightest hint concerning them. The foremost and most essential, and which to my comprehension seemed an insuperable objection, was, the injury the parts contained within the pelvis might suffer:

First, Accidentally by the knife, in the performance of the operation.



Secondly, by the violence in separating the ossa pubis after the section, and of necessity tearing them away from the cellular connexion which lines the pelvis, and which unites all the soft parts contained within the cavity to those bones.

Thirdly, By the free admission of external air to all the contained parts, particularly to the bladder, if it should have been wounded, or torn open, during the operation, which I have shewn has actually happened in some of the cases, where the section has been performed; where the operator has neither been “un-  
“ skilful, nor ignorant of the structure  
“ and situation of the parts,” and that perhaps for a considerable time, and to a considerable extent; than which nothing is found to be more dangerous to all the cavities of the body, and their contents. External and cold air was never intended by nature to penerate into any of the cavities of the human body, they are



therefore not prepared to resist its influence, and it becomes of course particularly hostile to the contained parts, by creating inflammation; which not being restrained by a natural process, as in external parts, extends over the whole cavity, and contents, and is ever accompanied with great fever; often in the thorax, but generally in the abdomen, ending in gangrene and death; and even in less important cavities, the inflammatory symptoms, from that cause, always rise to a very alarming height.

Fourthly, By the unavoidable compression of these parts, against the sharp edges of the divided bones, in the forcible delivery of the child; parts which, in their natural state, are extremely sensible and irritable, and some of them even essential to life; and which, having been first torn from the bones, are now on the stretch from the division of the ossa pubis, and already injured by the admission of



the external air. But if we further admit, with the favourers of the operation, the possibility of such a separation of the ossa pubis as shall be capable of receiving the occiput of the child into the aperture, the soft parts (as before observed), will be so compressed between the solid wedge of the child's head, and the sharp edges of the bones, that they must be utterly unable to resist so many complicated causes of mischief. Inflammation and fever to such a degree, as in most cases to end in gangrene, and sometimes in death, were therefore reasonably to be expected from this operation, and experience has too fatally confirmed our apprehensions.

The next objection is the possibility of the ilia being ankylosed with the sacrum. I am ready to allow this is not a very probable objection, but if it should happen, it is irremediable.

The next and last objection which I shall mention is, the small probability of sav-



ing the child, after all the pain and danger incurred by the unhappy mother. It is well known to the experienced reader, how precarious the preservation of the child is, even in a tolerably-sized pelvis, in all preternatural presentations. The continued compression of the funis by the head, in its passage through the pelvis, usually destroys the life of the child, where there is only a small deformity, but invariably where the distortion is considerable, and where great and repeated force is required to extract the child. This objection, too, will be completely established by the event of the cases which will be related in the next Section.



## SECTION VI.

WHEN the division of the symphysis pubis was first announced in this country, the objections described in the last Section immediately and forcibly presented themselves to my consideration, as necessary to be removed, before we could be warranted in the adoption of the operation into general practice. From the splendid manner in which it was first introduced on the continent, I had little doubt but that we should in a short time be in possession of facts sufficiently numerous to determine its real merit. I knew that experience would very soon remove, or fully confirm those objections; and that to take up a hasty and insuperable prejudice against any discovery upon arguments of theory, however strong or reasonable,



was disrespectful to the ingenuity of the inventor, inconsistent with candour, and discouraging of every future attempt to improve the art. I waited therefore with becoming patience, to see whether those objections would be removed, or confirmed by experience, in the mean time sparing no pains to secure, as was my indispensable duty, every channel through which it was in my power to procure such information.

It was more than five years since the first operation was performed at Paris, during which period it had been repeated about five-and-twenty times, in different parts of Europe, but with very different success. As the merit of this new invention must be determined by the event of those cases, and the circumstances attending them, I will now beg leave to lay before my readers the particulars of each case, as far as they have come to my knowledge, or as they appear to me inte-



resting in the recital, or important in the consequence.

I have collected the particulars of seventeen of the cases with tolerable accuracy ; of the remaining eight I have been able to procure no satisfactory information, not even of the event. How far the accounts are correctly true, no person in my situation can be answerable for ; I have not the slightest inclination to give a colouring to the cases, different from their natural complexion ; but if I had, I must be infallibly precluded from the possibility of doing it, by giving the author's description in his own words. It is with infinite pain, and not without some indignation, that I have detected the most palpable perversion of the truth, in the description of the circumstances of some, and even in the event of other cases ; by which means, a favourable representation has been attempted to be imposed on the credulity of the public, where the genuine



symptoms, and real event, would have afforded the most conclusive evidence against the operation; than which, in an affair of this nature, surely nothing can be more inexcusable. As far as mere opinion goes, every person may be allowed innocently to indulge himself with visionary expectations of success: different persons see things through such different mediums, even in science, that very often the wisest and best informed differ *toto cælo* in their opinion, and draw diametrically opposite conclusions from the same premises; insomuch that the correctness of the present age always requires a faithful representation of experiments in philosophy, and of facts in physic, before any new doctrine can be justified or established. In an affair of so much consequence as this operation may be to the unhappy individuals who are the subjects of such laborious parturition, to palliate, conceal, or in any



manner misrepresent the circumstances of a case, is highly culpable; but especially so far to depart from the sacred obligation of truth, as to describe that event to be successful which has in reality been fatal, is an event so injurious to the interests of humanity, that it cannot, in my opinion, be too openly exposed, or too severely reprehended.

The first case of Mrs. Souchot is already described; Mr. Sigault has performed the operation four times since, in which he has lost *one woman and all the children*; so that Mrs. Souchot's was the only case where the intention of the operation was completely answered, or where both mother and child were preserved; and as there appear some particular circumstances about her child, not described by Mr. Sigault himself, or known to the public, I will here beg leave to quote Mons. Baudeloque's animadversions upon Mons. Sigault's success in that case.



“ De cinq femmes qu’il a opérées,  
 “ *une a été victime de cette nouvelle mé-*  
 “ *thode; quatre enfans sont morts entre*  
 “ *ses mains*, et il n’a pu sauver jusqu’ici  
 “ que celui de la femme Souchot, peut-  
 “ être n’est-ce que parce qu’il étoit *très-*  
 “ *petit*, et que le bassin de cette femme  
 “ n’est pas contrefait au dernier point.\*”

And again, page 259,

“ S’il est prouvé que l’enfant de la  
 “ femme Souchot n’a dû le précieux  
 “ avantage de naître vivant qu’à son peu  
 “ de volume et à la souplesse des os du  
 “ crâne, comme quelques-uns l’ont pub-  
 “ lié, la section du pubis, dans le nom-  
 “ bre d’observations citées, n’a donc point  
 “ encore eu de succès incontestables; pu-  
 “ isque sans secours, l’enfant dont il  
 “ s’agit, auroit pu jouir des mêmes avan-  
 “ tages.

“ Nous avons vu cet enfant le trei-  
 “ zieme jour de sa naissance, il étoit *fort*

\* L’Art des Accouchemens, Tom. II. p. 233.



“ *petit, et sa figure présentoit un caractere*  
 “ *d’immaturité, tel qu’on l’observe ordi-*  
 “ *nairement aux enfans qui naissent au*  
 “ *terme de huit mois, et que nous l’a-*  
 “ *vons remarqué sur plusieurs enfans de*  
 “ *femmes qui avoient été rachitiques, et*  
 “ *qui avoient encore l’habitude exté-*  
 “ *rieure.*”

In some sort to confirm his opinion (just quoted) concerning the size, &c. of Mrs. Souchot’s child; Mons. Baudeloque observes (as mentioned above), that Mr. Sigault has not been able to preserve any other child, although he has repeated the operation four times, and of which further notice will be taken in the sequel.

The next case where the division was performed was at Mons, in Hainault, by Mons. Cambon,\* who in March, 1778, performed this operation on a taylor’s

\* See Lettre a Mons. Branvilla, Ecuyer, Premier Chirurgien de L. L. M. I. R. A. &c. Par. Mons. Cambon, Ecuyer, &c. Mons, 1780.



wife, which succeeded perfectly well as far as related to the mother, but the child was born dead. Indeed, from Mr. Cambon's own account, it was by no means indicated by necessity, and as he describes the funis presenting before the head, there was a very slender chance of the child being preserved in a small or deformed pelvis. It was therefore in my opinion inexcusable, thus wantonly to expose the poor creature to so tremendous an operation, almost without the possibility of an equivalent, notwithstanding Mons. Cambon describes her recovery in the following favourable manner. “ Cette femme n'eut pas le moindre  
 “ accident de son opération, ni des suites  
 “ de sa couche : ” “ La malade urina à vo-  
 “ lonte quatrè heures après son opéra-  
 “ tion, ce qu'elle continua de faire natu-  
 “ rellement, ainsi que ses autres fonc-  
 “ tions, jusqu'à son entiere guérison, qui  
 “ arriva le premier Mai, et elle marcha



“ dès lors, ainsi qu’elle fait aujourd’hui,  
 “ comme si on ne lui eût jamais fait au-  
 “ cune opération.”

His second case succeeded completely; and, from the stature of the patient being only forty inches, it is presumable that her pelvis was very much deformed; but his description of it is so imperfect, and the whole case detailed in so loose and superficial a manner, that the necessity for the operation is by no means established: however, both mother and child were preserved; and we are informed, that after the division, the child was extracted with the forceps; that the mother had some fever, with tumour of the abdomen, &c. on the eighth day, which were cured by camphor, and which he recommends strongly in suppressions of the lochia, &c.

The third case described by Mons. Cambon is a repetition of the operation upon the taylor’s wife, who was the sub-



ject of the first case ; and this being the only one extant where the operation has been done twice on the same patient,\* and as it succeeded completely in preserving both mother and child, I will beg leave to present to my readers Mons. Cambon's own account of the peculiar circumstances and favourable event of this case.

In performing the section, he observes,  
 “ Le cartilage qui unit les deux os, je le  
 “ trouvai plus ferme et beaucoup plus  
 “ solide qu'à la première opération, et  
 “ je l'estimai de la consistance des ten-  
 “ dons, craignant avant même de faire  
 “ l'opération, tant cette femme marchoit  
 “ avec aisance et facilité, que les car-  
 “ tilages qui unissent les deux os ne

\* Since the publication of the former edition of this work, the section of the symphysis has been twice performed on the same woman, by the advice of Professor Camper, by Mr. Damen, in Holland.—*Vide Medical Journal.*



“ fussent ossifiés.” “ L’écartement se fit  
 “ avec moins de vitesse qu’à la première  
 “ opération.” “ Elle n’éprouva d’autre  
 “ accident *qu’une fièvre de vingt-quatre*  
 “ *heures*, le douzième jour de son opé-  
 “ ration; elle fut occasionnée par un  
 “ rhume épidémique, dont presque toute  
 “ la ville fut attaquée: elle n’eut donc à  
 “ cette seconde opération, comme à la  
 “ première, *aucune suite provenant de la*  
 “ *symphyse ni de sa couche; la plaie fut*  
 “ *bien cicatrisée le 12 du mois suivant et*  
 “ *elle marche comme auparavant.*

“ L’enfant est aussi en parfaite santé,  
 “ et la mère continue à le nourrir.”

The next operation was performed by  
 Mons. Despres de Menmeurs, of St. Pol  
 de Leon, in Brittany,\* upon Ann Berou,  
 a soldier’s wife, and it succeeded com-  
 pletely, as the account states, for both  
 mother and child were preserved. It  
 appears, however, that if the operation

\* Journal de Medicine, p. 428.



was performed at all, it was performed unnecessarily, for the same woman was delivered naturally of a living child the next year.\*

Upon what authority he does not state, but Dr. Weidmann says, the division of the symphysis was never performed in this case. “ Verum relatum habemus, “ D. Despres *synchondrosin pubis nullatenus dissecuisse.*”

The next case with which I shall beg leave to present the reader, is of much importance in determining the merit of this operation; for so different a description has been given to the public by the favourers of the operation, of the circumstances attending it, from what was the real state of the case, that if candour re-

\* “ Rien ne prouve plus evidemment l'abus qu'on  
“ a déjà fait, de cette nouvelle operation. (Berou)  
“ *est accouché naturellement* 10 Juliet, 1779, en pre-  
“ sence de plusieurs chirurgiens et medecins de la Ma-  
“ rine de Brest.”—*Baudeloque*, p. 257.



quires us to believe that the representation was not made with a design to mislead, at least it must have happened from the most inexcusable negligence. It is one of the ten successful cases related by M. Roussel de Vauzesme, which he describes “as *commanding the assent, or silence, of such as are envious of this great discovery.*”

It may be necessary perhaps to apologize for the length of the quotation, but it is authentic, satisfactory, and important; and exactly the same account was transmitted by the President Seibold (the operator) to Professor Richter of Gottingen, and inserted in his *Bibliotheca Chirurg.* in the German language, and from thence transferred into another book, with the same title, published in 1781, at Vienna.\*

\* See *Chirurg. Biblioth. Authore Steph. Hieron. de Vigiliis, Von Creutzenfeld, Phil. et Med. D. Vol. II. p. 1289.*



The President transmitted the same account to the Royal Academy of Paris, from which some interesting particulars have been extracted by Mons. Baudeloque, and he also sent it to Professor Lobstein, at Strasburg, which last was inserted in Dr. Bentley's Thesis ; but by much the most minute description of the case was published by Dr. Weidmann, in his *Comparatio, &c.* He had been present, and assisted at the operation, and was afterwards entrusted with the particular charge of the patient. All these accounts of course agree exactly in the description of the symptoms and event. They all state the *fever, inflammation, gangrene, fistula of the bladder, exfoliation of the ossa pubis, &c. &c.*

But as the account of this case published by Mr. Roussel differs so essentially from all the other accounts, and so certainly from the truth (in omitting every bad symptom); and as a specious



complexion is given to the operation, from the colouring bestowed on it by the French relater, and the first partizans (insomuch that Dr. Leake calls it a *successful* case, from the imperfect account of it conveyed to him by Dr. Hauseman, of Brunswick), I will entreat the reader's attention to the following extracts of the most material parts of the case, as most accurately related by Dr. Weidmann.\*

“ Margaretha Markard ex Pfersdorf,  
 “ prope Kissingen, 35 annorum, staturæ  
 “ mediocris, sani habitus, ante 11 annos  
 “ nupta, septies peperit. Foetus sex na-  
 “ turaliter quidem, ast difficili, plurimum-  
 “ que dierum labore enisa est; septimum  
 “ in frustra divulgum chirurgi pagani in-

\* P. 34 to 51. I ought in justice to Dr. Weidmann to remind the reader, that this account is mutilated, by omitting every part (to shorten it) that was not thought essential; hence the apparent want of connection will be understood and pardoned.



“ dustria extraxit.” — “ Manum dein fa-  
 “ cile in vaginam inducit, sentit promon-  
 “ torium ossis sacri antè in pel-  
 “ vis cavum prominere, ut *conjugatam*  
 “ *lineam tribus unciis vix majorem esse*  
 “ existimet.” — Præsentibus igitur Pro-  
 “ fessoribus Senft et Medico Aulico Eh-  
 “ len, tribus condiscipulis meis et me,  
 “ parturiente nostra in marginem lecti  
 “ sua posita, ita ut figi operanda possit,  
 “ ossi vero coccygis liber motus pateat.” —  
 “ Cum una quarta modo cartilaginis pars  
 “ discissa est, ast circa cartilaginis me-  
 “ dietatem impingit operator in inex-  
 “ superabilem cultro resistentiam, adhi-  
 “ bet violentiam.” — “ Fatigatus dein ul-  
 “ tra mediam horam istis Encheiresibus  
 “ frustra, persuasum habet, *reliquam medi-*  
 “ *amque synchondroseos partem ossificatam*  
 “ *esse.*” — “ Ego jussus a Cl. Præsidente meo  
 “ serrulam parum incurvatum, globoso  
 “ apice, ne lædat, munitam accerso ; hac,  
 “ operator ossa pubis caute et secure,



“ citra partium mollium læsionem discin-  
 “ dit.” — “ Finitus ita *terribilis adeo par-*  
 “ *tus*, et tanto impedimentorum confluxu  
 “ difficillimus, in cujus decursu omnem  
 “ artem viresque suas victas fore timuit  
 “ Clarissimus Præses, et toties in novam  
 “ hanc operationem *se abreptum fuisse,*  
 “ *partumque Cæsareum non anteposuisse*  
 “ *doluit*, perpendens secum, foetum, licet  
 “ vivus fuisset, per hasce angustias *ser-*  
 “ *vata vita educi sane non potuisse.*

“ Primo ab operatione die pulsus fre-  
 “ quens est, et durus, e vena brachii ad  
 “ octo uncias sanguinis emittere jubet Cl.  
 “ Præses. Eductus sanguis crusta phlo-  
 “ gistica tectus est; lochia rite fluunt, in  
 “ sinistro pelvis latere uterus durus sen-  
 “ titur, urina adhuc contra voluntatem  
 “ stillat.”

“ Sub vesperum pulsus celer 130es  
 “ *intra minutum micans*, rubet facies, in-  
 “ tumescit abdomen, uterus durus supra



“ pelvim jacet, et parum dolet attactus,  
 “ repetitur venæ sectio.

“ De nocte symptomata inflammationis  
 “ perstant, chirurgus excubias agens de-  
 “ nuo venam aperit.”

“ 5ta. Urina aliquoties sponte pro-  
 “ fluxit, ægra in movendo se situmque  
 “ mutando summam difficultatem sentit,  
 “ *et medium, a vertebrae lumbaribus, corpus*  
 “ *paralyticum quasi esse.* In vulnere pus,  
 “ circa vesperum febris exacerbatio, ma-  
 “ jorque ventris intumescencia, ægra et  
 “ valde de *doloribus circa nates et ossa*  
 “ *ilei, eorumque cum sacro juncturam que-*  
 “ *ritur.*”

“ *Urina præter arbitrium adhuc effluit;*  
 “ (num id collo vesicæ nimium distento,  
 “ vel capite transeuntis foetus nimis com-  
 “ presso adscribendum? cultro læsio ejus-  
 “ dem facta non est) circa vesperum fe-  
 “ bris iterum mitior, dolor tamen vehe-  
 “ mens circa pubem est, auctus attactu,



“ *omnis urina præter arbitrium effluit;*”  
 “ Die 9na, situm ægra difficilime quidem  
 “ mutans, circa synchondroses iliosa-  
 “ cras nihil tamen vel doloris vel incom-  
 “ modi sentit. Inter deligandum ex *imo*  
 “ *vulnere volsella sæpius eximuntur gan-*  
 “ *grænosæ et naturæ viribus solutæ mem-*  
 “ *branarum particulæ.*

10ma Die ab operatione febris per-  
 “ stat, mitis tamen, omnis fere urina  
 “ cum pure per vulnus defluit, etiam dum  
 “ ægra per viam ordinariam eandem  
 “ emoliri nititur: conclusit hinc carus  
 “ Præceptor meus, *urethram prope col-*  
 “ *lum inflammata fuisse, bancque inflam-*  
 “ *mationem in escharas gangrænosas abi-*  
 “ *isse, viribus dein naturæ expulsas; so-*  
 “ *lutis hisce escharis patuisse in vulnus*  
 “ *iter urinæ, quod non patuerat, donec*  
 “ *solutæ escharæ non essent.*

11ma. Febris eadem ac heri, eademque  
 “ urinæ per vulnus profusio, iterum ex  
 “ *imo vulneris fundo gangrænosæ mem-*



“ *branarum lamellæ volsella auferuntur,*  
 “ *immissa per urethram et catheterem in-*  
 “ *jectio impetuosius per vulnus regur-*  
 “ *gitat.*”—“ *Susplicari igitur fas est, per*  
 “ *distensiones divulsionesque violentas pone*  
 “ *vesicæ collum natam inflammationem in*  
 “ *gangrænam cessisse, et urinæ patulum*  
 “ *viam per vulnus dedisse.*—*Ossa pubis,*  
 “ *ubi disscissa sunt, scabra et cariosa, vul-*  
 “ *væ labia sero infiltrata sunt,*” &c. &c.

It appears that this poor woman was so far recovered from the operation, as to return home the 2d of April; but there remained a fistulous opening into the bladder, with occasional exfoliations from the divided ossa pubis for near eighteen months: for Dr. Weidmann adds,

“ 18 Julii, 1779, visurus, an in vado  
 “ omnino sint operatæ nostræ res, ego-  
 “ met in pagum Pfersdorf iter facio: in-  
 “ venio illam domesticis suis negotiis  
 “ occupatam, suæ spontis, et optime va-  
 “ lentem; dicit, se sæpius adhuc inflam-



“ matione circa operationis locum cor-  
 “ reptam fuisse, imo et tum urinam ite-  
 “ rum per *vulneris fistulosam aperturam*  
 “ *stillatim effluxisse*; singulis vero vi-  
 “ cibus remittente inflammatione exi-  
 “ visse *ossicula exfoliata*; ante tres menses  
 “ vehementiore inflammatione se cor-  
 “ reptam fuisse, sub hujus remissione  
 “ fragmentum osseum ad vulneris orifi-  
 “ cium se offerens difficulter eductum fu-  
 “ isse, et post cessasse omnia mala symp-  
 “ tomata. Vulnus probe nunc consoli-  
 “ datum est, rotunda cicatrix est et firma.  
 “ Digito in vaginam immisso, videor mihi  
 “ sentire callum esse molliorem, ossibus  
 “ pubis disscissis intermedium; operata  
 “ etiam se tactu exploratam habere, ossa  
 “ pubis immediate inter se *nunquam con-*  
 “ *juncta fuisse asserit*; menses rite fluunt,  
 “ iis vero instantibus circa pubem dolor  
 “ est.”

I will now beg leave to lay before the  
 reader, just so much of the account of this



case, published by Mons. Roussel de Vauzesme, as will shew the intention of the relater in the clearest point of view.

After a general description of the operation, he concludes, “ *Non enim vesica,*  
“ *non urethra ullam jacturam passæ sunt.*  
“ *Exiguo admodum tempore sedata est in-*  
“ *flammatio, nec gravis ullorum ingruit*  
“ *symptomatum series.*” P. 96.

I am persuaded, every attentive reader will anticipate me in the reflections this last assertion must suggest ; in the name of humanity and common sense ! if *fever, inflammation, temporary paralysis, and subsequent mortification of the bladder, ending in a fistula, by which the urine continued to escape for eighteen months, and during which period occasional exfoliations from the ossa pubis were frequently happening,* are not to be called “ *gravis symptomatum series,*” what train of symptoms, not preceding death itself, can ever be considered as *grievous* ?



The next case is still more tremendous, because it ended fatally both to mother and child ; and here the misrepresentation is more palpable and inexcusable ; but as it is possible that Mr. Roussel de Vauzesme may himself have been imposed upon, I will not impute to him so gross a violation of truth, as to suppose that he knew the genuine event of the case, for it was not announced in the first account ; but I must beg the reader's attention to the different descriptions. It is another of the ten cases which is included in his " *Huc usque res prospere cedentes.*"

" *Prope urbem Nemetum (Spire dans le bas Palatinat) mulier vocata Anna Maria Schmidrinn, jam per tres continuos dies miserè puerperii doloribusangebatur. Peritissimus Chirurgus obstetricans D. Nagel callidè pelvis diametros explorat, et internum ossis sacri parietem osseo tumore sic asperum*



“ esse animadvertit, ut omnis spes partûs  
 “ naturalis præcideretur. Tùm assen-  
 “ tientibus gravidâ proximisque (die  
 “ quintâ Aprilis, 1778) et præsentibus  
 “ DD. Biernstiel, D. M. et Albert peri-  
 “ tissimo Chirurgo, symphysis ossium  
 “ pubis scalpro dividitur. Extemplò fer-  
 “ mē, *vivus infans in lucem facillimè pro-*  
 “ *pellitur et paucis post elapsis diebus, tam*  
 “ *benè sese habebat puerpera, quàm benè*  
 “ *valere potest quæ partûs difficilis pertu-*  
 “ *lit incommodum.*” This is the account  
 given by Mr. Roussel; but here follows  
 the genuine history.\*

“ 5 April. anni ejusdem D. Nagel  
 “ Chirurgus Bruchsaliensis cum Doctore  
 “ Berensteil operationem hanc instituit  
 “ in foemina, quæ tres maturos foetus,  
 “ duos posteriores vero mortuos jam  
 “ modo ediderat. Foetus inique facie  
 “ dextrorsum situs, neque ultro urgetur  
 “ doloribus, neque versione, neque for-

\* Weidmann's Comparatio, p. 30.



“ cipe prehendi potest. Post *dissectio-*  
 “ *nem cartilaginis fit versio, adhuc omnino*  
 “ *difficilis. Fœtus per aliquot adhuc mi-*  
 “ *nuta vivere visus fuit. Ægra die post*  
 “ *operationem octava cum signis gangrænæ,*  
 “ *adhibita licet omni opera, fatis cedit.*  
 “ *Exenteratio exhibuit partes genitales ex-*  
 “ *ternas sphacelosas, urethram integram,*  
 “ *telam cellulosa sub ossibus pubis cor-*  
 “ *ruptam et sanie perfusam, os uteri gan-*  
 “ *grænosum, ut et interna et posterior fa-*  
 “ *cies uteri. Linea pelvis conjugata erat*  
 “ *unciarum trium.*”

The next case which is to be related, happened at Arras. It was under the direction of Mons. Retz, a physician of eminence, but Mons. L'Escardé performed the operation; the following account of it is extracted from Mons. Roussel.

“ Hic medicus parturienti fortè occurrit  
 “ quæ jamdiù propter pelvis angustiam  
 “ diris afflictabatur tormentis. Ità vehe-



“ menter tùm inflammatione correpta  
 “ erant genitalia, ut in vaginam intro-  
 “ gredi nequaquàm digitus posset; jam  
 “ de omnibus fermè conclamatum erat,  
 “ cùm sibi ad memoriam revocans illud  
 “ Celsi monitum, satius esse in re despera-  
 “ tâ anceps experiri auxilium quam nul-  
 “ lum, à peritissimo Chirurgo Lescardé  
 “ pubem dividi jubet. Cujus sectionis  
 “ ope egressus *homuncio, ad aliquot horas*  
 “ *spiravit, et ad diem quintum usque super-*  
 “ *vixit mater.* Quæ si protinùs non acta  
 “ sint, nec *miseræ præsto fuisset extrema-*  
 “ *unctio, nec baptizatus infans.* Nihilo-  
 “ minùs *medicum tot clara peragentem ne-*  
 “ *fariè insimulant invidi.*”

A long and very particular relation of the dispute this case occasioned between Mess. Retz and L'Escardé, on one side, and all the physicians and surgeons of Arras, on the other, as well as an accurate account of the appearances after



death, authenticated by all parties, may be found in Mons. Sue. Unnecessary \* as this operation certainly was, and fatal as the event proved, both to mother and child, Mons. Roussel (as the attentive reader will have observed above), like a true Frenchman, and a good Christian, derives from this case some consolation to himself, and attributes some credit to Mons. Retz, inasmuch as the child lived long enough to be baptized, and the mother long enough to receive extreme unction. It would be highly unbecoming and indecent to arraign the religious prejudices of any country, by endeavouring to lessen the merit of baptism to the child, or extreme unction to the mother; but I think the common sense of mankind, of all religions, and in all countries, must be shocked at the concluding words of the quotation, where Mons.

\* Mons. Sue expressly says, "*Le detroit du petit bassin avoit deux pouces, dix lignes.*" P. 342.



Retz, for affording baptism to the child, and for prolonging the mother's life long enough to receive extreme unction, is described as "*medicum tot clara paragen-tem.*"

Another case, fatal both to mother and child, still remains to be related, which was attended with circumstances more complicated, and more perplexing, than any of the preceding ones. It happened at Dusseldorf, in May, 1778, of which two accounts have been published, one in French, by Professor Guerard, the operator, and another in the German language, by Mr. Brinkmanns, who was present. As I have not yet been able to procure either the one or the other, the reader must be satisfied with the following translation into Latin, extracted from Dr. Bentley's Thesis, together with an account of the dissection of the body.

" Instituebatur a Clar. Guerardo maxima  
 " cum cautela, absque ulla læsione ali-



“cujus partis non lædendæ. Sub ope-  
 “ratione ramus quidem arteriæ pudendæ  
 “externæ dissectus sanguinem magna co-  
 “pia fundebat, qui autem applicatio di-  
 “gito statim cessabat. Inciso autem an-  
 “nulo ligamentoso ab antica sui parte  
 “pubis ossa jamjam separata animadver-  
 “tebantur, secedebantque a se invicem  
 “aliquo cum crepitu, ita ut intervallum  
 “inter pubis ossa sesqui-pollicem æqua-  
 “verit. Diductis itaque ad sesquipol-  
 “licem pubis ossibus, protractoque in va-  
 “ginam uno pede alter erat quærendus,  
 “id, quod autem impetrare haud potu-  
 “erant, manus enim introductio in uteri  
 “cavum adhucdum impossibilis erat,  
 “quamobrem solius pedis extracti ope  
 “foetus versionem tentarunt; quod etiam  
 “incassum erat, quippe foetus caput sem-  
 “per immotum manebat: ut autem in-  
 “troitum in uteri cavum sibi compara-  
 “rent, solvere tentarunt femur ab ipso  
 “trunco, ut nempe apertura superior ab



“ illo liberaretur, atque manui introdu-  
 “ cendæ spatium concederetur, cumque  
 “ femur a trunco abscedere deberet, crus  
 “ a femore sese separabat, ita tamen ut  
 “ femur in uteri cavum refundi potuerit:  
 “ quo facto tunc omnia in vado esse pu-  
 “ tarunt, dum manum per aperturam  
 “ superiorem nunc facile negotio ad al-  
 “ terum pedem usque demittere potu-  
 “ erunt, sperarunt fore ut operationi cito  
 “ finem imponere, partumque absolvere  
 “ possent, at etiam hæc spes fefellit, uteri  
 “ enim contractiones tanta urgebant vi,  
 “ ut manum obstupefactam quasi retra-  
 “ here coacti fuerint. Quod autem ma-  
 “ num in uteri cavum nunc demittere  
 “ potuerint, non censendum est, ac si  
 “ pubis ossa a sacro antrorsum remota,  
 “ conjugataque elongata fuisset, sed id  
 “ inde factum, quod eminentia a dorso  
 “ pollicis formata intra pubis ossa a se  
 “ invicem remota collocabatur, spe sua  
 “ itaque decepti tentarunt adhuc forcipis



“ applicationem, at itidem frustraneam,  
 “ foetus enim capite nimis alte et oblique  
 “ in pelvi adhuc hærente.

“ In tantis rerum angustiis ad ultimum  
 “ tandem confugerunt remedium, *perfo-*  
 “ *rarunt nimirum cranium magno quidem*  
 “ *cum negotio, effluente cerebro cranium*  
 “ *paululum magis descendebat, unci appli-*  
 “ *catio locum non habebat necnon etiam*  
 “ *forceps, et licet quidem ossa quædam a*  
 “ *cranio abripiebantur, caput tamen semper*  
 “ *manebat immotum.*

“ Deficientibus autem versus vespertum  
 “ matris viribus lecto componebatur ægra,  
 “ quo etiam paululum reficiebatur; noctu  
 “ autem dum aliquid in vaginam descen-  
 “ dere sentiebat, chirurgus tum temporis  
 “ vigilias agens, accessit ad illam, caput-  
 “ que descendere animadvertens, foetum  
 “ mediocris magnitudinis extraxit, inse-  
 “ quentibus sponte sua secundinis. Et ita  
 “ tandem finita fuit hæcce operatio.



“ Fœmina dein operatione finita vitam  
 “ adhuc trahebat per decem dies, quibus  
 “ effluxis animam expiravit. Admodum  
 “ erat debilis et defatigata per decem  
 “ hosce dies; venter mox magis mox  
 “ minus erat tumidus turgidusque. Pul-  
 “ sus erat debilis et frequens. De lo-  
 “ chiis parum aut fere nihil promanabat.  
 “ Ægra vexabatur singultu, tussis, quæ  
 “ ab initio sicca erat, humida tandem  
 “ evadebat. Quarto die suppurationis  
 “ materiem fundere incipiebat plaga.  
 “ Urina, quæ involuntarie destillabat,  
 “ sexto die retinebatur.

“ Deligationis apparatus admodum laxè  
 “ erat applicandus, nec etiam pubis ossa  
 “ penitus ad se invicem adduci potue-  
 “ runt, quod si enim fascia paululum fir-  
 “ mius adstringebatur, graves admodum  
 “ dolores in plaga sentiebat ægra. Re-  
 “ spirationis difficultas sensim ingraves-  
 “ cebat, expectoratio evadebat admodum



“ difficilis, ita ut tandem tantis vexata do-  
 “ loribus, tantisque oppressa ærumnis e  
 “ vita decesserit.

“ Aperto cadavere secundo post mor-  
 “ tem die, intervallum inter pubis ossa  
 “ reperiendum, atque sesquipollicem æ-  
 “ quans, *aliqua ex parte quædam vesicæ*  
 “ *portio occupabat, quæ lividi coloris erat*  
 “ prouti etiam plaga; intestina aëre ad-  
 “ modum erant distenta atque turgida,  
 “ atque ea, *quæ in viciniis uteri hærebant*  
 “ *maculis fuscis erant obsessa.*

“ Uterus contractus parvum offerebat  
 “ ulcus sinistro in latere, paululum sub  
 “ vaginæ connexione cum uteri collo,  
 “ materiesque purulenta effusa hærebat  
 “ in pelvis cavo.

“ Aperto dein thorace pulmones ani-  
 “ madvertebantur turgidi, sanguineque  
 “ admodum repleti, colorem hepatis æmu-  
 “ lantes.

“ Pelvis diametri nunc accuratius lus-  
 “ trari valebant, et quidem *conjugata na-*



“ *turalis erat =  $2\frac{1}{2}$  pollicum Paris. eadem*  
 “ *diameter ducta a promontorio ossis sacri*  
 “ *ad pubis ossa a se invicem remota duabus*  
 “ *solummodo lineis erat major, transversa*  
 “ *diameter 6 poll. Paris. et 2 lin. æqua-*  
 “ *bat. Synchondroses sacro-iliacæ erant*  
 “ *separatæ admodumque mobiles; illa la-*  
 “ *teris sinistri majorem admisit separatio-*  
 “ *nem. Ligamenta disrupta non erant.*  
 “ *Inferior apertura nullo laborans vitio*  
 “ *naturales servabant dimensiones.”*

I must now beg leave to revert to two of the operations performed by Mr. Sigault, as containing some circumstances too important to be omitted.

One patient, named Vespres, died in consequence of the division of the symphysis; and, upon examination after death, it appeared that great violence had been done to the sacro-iliac joints, and that there were likewise evident marks of gangrene in the uterus, &c.

Mrs. Blandin, the other patient, who



was delivered of a dead child by Mr. Sigault, in 1779, by means of this operation, was the following year delivered naturally of a living child by Mrs. Belami, a midwife, at Paris, who had been sent for to attend her in consequence of Mr. Sigault's refusal, unless he was again permitted *to repeat the same operation*.\*

After reading an account of the preceding dreadful cases, one cannot help feeling and lamenting the situation of this poor woman, who besides the present pain, and certain inconveniences attending the section, was cruelly exposed to the risk of suffering in future the most painful symptoms, and extreme danger, without the slightest reason, or the smallest necessity; and what is worst of all, not only without deriving any equivalent, by the preservation of her child, but even involving its absolute destruction in her own danger, and all to gratify a wanton

\* See Baudeloque, page 243.



predilection for this new-fangled operation!

The event of this woman's second labour must prove, one should suppose, even at Paris, the *coup de grace* to this new practice, notwithstanding the preposterous attempts of its partizans to prove that this success was the effect of the former section.

Mons. Alphonse le Roy having performed the operation twice himself, and published an account of both the cases, with circumstances as (mentioned before) that Mons. Baudeloque says, require for the sake of truth, that he even extends the limits of his work to give them a full examination. I shall beg leave to transcribe his own words, without making any reflection. The dispute was too interesting to pass unnoticed in this review, because it tends strongly to confirm my opinion, that all the partizans of this new operation have been induced



to think more favourably of it themselves, and to wish to make a more favourable impression upon the public opinion, than the thing itself will at any rate warrant; at the same time, I have no doubt but that Mons. Alphonse le Roy will feel himself called upon to answer Mons. Baudeloque, and will be able to remove the suspicions so injurious to his veracity.

“ Une femme de vingt-huit ans, d’une  
 “ taille de trois pieds trois pouces, grosse  
 “ de son premier enfant, et fatiguée,  
 “ dit ce médecin, *de dix-huit heures de*  
 “ *souffrances*, fait le sujet de sa premi-  
 “ ere observation.”——“ Après la sec-  
 “ tion, les os *pubis* s’éloignèrent *de plus*  
 “ *de deux pouces en se retirant sous les té-*  
 “ *gumens*, et leur écartement, *s’étendit*  
 “ *ensuite presque jusqu’à trois pouces en*  
 “ *éloignant simplement les cuisses de la*  
 “ *femme au moment où la tête devoit passer.*  
 “ On retourna l’enfant, et on le tira par



“ un pied.” — “ L’enfant parut mort, mais  
 “ il se ranima moyennant les secours  
 “ qu’on lui donna. Il étoit fort gros,  
 “ et sa tête avoit quatre pouces moins  
 “ une ligne de diametre transversal, ou  
 “ d’une bosse pariétale à l’autre; *de*  
 “ *sorte que, dit M. le Roy, au moyen de*  
 “ *cette opération, j’ai passe quatre pouces*  
 “ *moins une ligne sur un bassin qui n’avoit*  
 “ *que deux pouces cinq lignes avant l’opé-*  
 “ *ration.* Vingt-huit jours après, la  
 “ femme fut présentée à la Faculté, mar-  
 “ chant seule, sans appui, et n’ayant au-  
 “ cune infirmité. Elle commença à se  
 “ lever vers l’époque du neuvieme jour,  
 “ et à marcher au douzieme.”

“ Il paroît, d’après l’observation, qu’il  
 “ y a eu erreur de quelques lignes dans  
 “ l’estimation qu’on a faite du diametre  
 “ transversal de la tête de l’enfant au  
 “ moment même de l’accouchement, puis-  
 “ que le lendemain on n’a trouvé *ce dia-*  
 “ *metre que de trois pouces huit lignes.*



“ Nous présumons la même chose de  
 “ l’estimation des diametres du bassin de  
 “ la femme, et sur-tout de l’écartement des  
 “ os *pubis* au moment du passage de la  
 “ tête. On a publié que cet écartement  
 “ étoit alors de trois pouces ou à-peu-  
 “ près.” — “ Un pareil écartement paroît  
 “ trop extraordinaire, pour assurer aussi  
 “ vaguement qu’il a eu lieu ; et bien des  
 “ gens croiront peut-être n’atteindre au  
 “ même but que ce médecin, qu’en éloig-  
 “ nant les os *pubis* à ce degré : s’ils *conser-*  
 “ *vent l’enfant par ce moyen, ils sacrifieront*  
 “ *la mere.*

“ Sept jours après cette opération,  
 “ M. le Roy la fit une seconde fois avec  
 “ même succès, sur une femme du Gros-  
 “ Cailloux, nommée *du Belloy*, dont la  
 “ taille est de quatre pieds neuf pouces.”

“ Après la section, l’on ouvrit la poche  
 “ des eaux, et l’on dégagea les pieds de  
 “ l’enfant, qui se présentoient les pre-



“ miers. On *engraina* dans la suite la  
 “ partie postérieure de la tête entre les  
 “ os *pubis*, qu'on avoit écartés de trois  
 “ pouces en éloignant simplement les  
 “ cuisses de la femme le plus qu'il avoit  
 “ été possible ; et l'on obtint la sortie  
 “ de l'enfant sans de grandes difficultés.  
 “ On observe que le diamètre *transverse*  
 “ de la tête étoit de trois pouces huit  
 “ lignes.”

“ La femme du *Belloy* éprouva des  
 “ douleurs très-vives après l'opération :  
 “ mais elles furent de courte durée, car  
 “ dès le lendemain cette femme *se portoit*  
 “ très-bien. On la changea de lit tous  
 “ les jours : sa plaie se trouva *cicatrisée*  
 “ dès le cinquième : elle marcha au dixième,  
 “ et fut à l'Eglise le dix-septième. On  
 “ ajoute que plusieurs médecins, du nom-  
 “ bre desquels étoit M. *Chaptal* de la  
 “ Faculté, et de l'Académie des Sciences  
 “ de Montpellier, n'ont pu voir cette



“ femme au cinquieme jour, sans une  
 “ *sorte d'admiration.*” \*

Mons. Baudeloque describes two other unfortunate cases; in one, Mons. Bonnard, at Hesdin, first performed the division of the symphysis, and afterwards the Cæsarean operation, *the mother died*, but the child was preserved; in the other case, which happened at St. Omer's, the mother lived, but *the child died*.

The following account of the success of the practice in Holland, is extracted from Dr. Michell's Commentaries de Synchondrotomia Pubis. After a very accurate and full review of the authors who have written upon this subject, and a par-

\* “ L'étonnement et l'admiration de M. *Chaptal*,  
 “ furent en effet très-grands; car le lendemain et long-  
 “ temps après, il doutoit encore que l'opération eût été  
 “ faite, et qu'une femme aussi-bien conformée que la *du*  
 “ *Belloy*, eût un bassin aussi difforme qu'on lui avoit an-  
 “ noncé. Cet exemple ne lui en a point imposé, et le  
 “ Médecin de Paris n'a point converti à son opinion le  
 “ Médecin de Montpellier.”



ticular detail of all the cases already men-  
 tioned, Dr. Michell adds, “ Felici etiam  
 “ satis eventu gavisæ fuerunt operationes,  
 “ quæ in nostra patria institutæ legun-  
 “ tur. Optatum quidem non habuit suc-  
 “ cessum synchondrotomia, quæ in fœ-  
 “ mina, plurium infantum mortuorum  
 “ matre, quos forcipe, in difficile partu,  
 “ ediderat, instituit Gertrudi poletanus  
 “ medicus Groshans, in pago Sprang  
 “ dicto: infantem tamen mortuum, cum  
 “ per quatrimum in partu degerat fœ-  
 “ mina, per synchondrotomiam, adjuncto  
 “ forcipis usu ex eadem superstite ex-  
 “ traxit.\*

“ Nullum itaque et hic a synchondro-  
 “ tomia præstitum commodum, quod  
 “ non æque, et vel absque tanto puerperæ  
 “ incommodo, præstitisset forceps.”

“ Verum et memorandæ veniunt ope-  
 “ rationes, quas prope Bommeliam insti-  
 “ tuit expert. J. Van Munster, chirurgus

\* Shdendaagsche vaderlandsche, &c. p. 531,



“ et obstetricator peritissimus, et quarum  
 “ ample enarratam historiam commu-  
 “ nicavit cum doctissimo hujus urbis me-  
 “ dico Van Erechem, cujus humanitate  
 “ harum argumentum hic proponere  
 “ mihi licet: et quidem paulo amplius,  
 “ quum nullibi adhuc enarratæ legantur.

“ Jani Van Loven uxor, in pago prope  
 “ Bommeliam (Le Varik in de Teilre-  
 “ warrs) 27 annorum, rhachitica gravida,  
 “ A. 1778, mortuum foetus, postquam  
 “ per tres dies dolores erat perpessa edi-  
 “ derat. Paulo post denuo gravida, d. 24  
 “ Mart. 1779, dolores persentiscens, ob-  
 “ stetricem quæ, ei in primo partu adste-  
 “ tirat, in auxilium vocabat, quæ licet  
 “ nocte jam formatæ essent, mane vero  
 “ ruptæ membranæ, foetus caput tamen  
 “ digito vix poterat attingere; neque do-  
 “ loribus qui ad horam secundam postme-  
 “ ridianam, alterius diei, vehementia et  
 “ frequentia admodum augebantur, ad  
 “ inferiora movebatur caput.



“ Sedatis itaque dein doloribus, et in  
 “ tenesmoideos contra os sacrum et pu-  
 “ bis mutatis, in auxilium vocabatur ex-  
 “ pert. Van Munster, qui quum elon-  
 “ gata supra foetus caput integumenta,  
 “ neque ipsam capitis osseam partem in-  
 “ clavatam sentiret, primo situm capitis  
 “ mutare, dein autem infantem vertere,  
 “ sed incassum, conabatur. Neque Le-  
 “ vrettiana forcipe partum terminare po-  
 “ terat, quum continuo de capite foetus  
 “ glisserat. Recta diameter pelvis supe-  
 “ rior conjugatam vocant, vix  $2\frac{3}{4}$  pol.  
 “ aestimabat, et hinc partum, nisi pelvis  
 “ per synchondrotomiam augeretur, per  
 “ naturales vias ἀδυνατον concludebat.

“ Propositis itaque partu Cæsario et  
 “ synchondrotomia cujus commoda ad  
 “ servandam matrem, foetumque, ex ob-  
 “ servationibus Cl. Sigault, et Groshans  
 “ enarratis, demonstrabat ultima opera-  
 “ tio, ex ipsius parturientis consensu, eli-  
 “ gebatur.



“ In consilium itaque vocatis Doct. de  
 “ Laat, et expert. Prillewitz, operatio de  
 “ 26 Mart. A. 1779, fuit instituta, et in-  
 “ cisis integumentis ad semipollicem, su-  
 “ pra labiorum muliebrium commissuram,  
 “ ita ut vulnus vix sesquipollicem æqua-  
 “ ret, pubis ossium synchondrosis cultro  
 “ divisa fuit, illæsis clitoride, urethra et  
 “ vagina—Dehiscebant statim ossa pubis,  
 “ et ulterius inmissa primum forcipe, et  
 “ dein digitis, ab invicem separabantur ad  
 “ 2 pollices. Jam descendebat caput fœ-  
 “ tus sensim sensimque, ita ut ipsa natura  
 “ partum ad finem perduxisset, nisi et  
 “ matris desiderium et dolorum defectus  
 “ forcipis usum indicasset. Fœtu ita-  
 “ que (quem jam aliquandiu mortuum,  
 “ testabatur fœtor), per Levrettianam  
 “ forcipem educto, extractis secundinis,  
 “ vulnus secundam artem, deligatum, et  
 “ fascia illiis imposita fuit.

“ Biduo, post operationem, pubis ossa per  
 “ semipollicem adhuc distabant :—sensim



“ vero sensimque adducta die 3 Aprilis,  
 “ vix amplius dehiscebant. Neque urina  
 “ difficulter mittebatur:—quarto post  
 “ operationem, die, alvum deponebat:—  
 “ octavo vero Aprilis colicis doloribus  
 “ vexabatur, qui tamen brevi sedati, et  
 “ eccoprolico sublatis fuerint. Sanata post  
 “ mensem, puerpera pedibus insistere, et  
 “ sex hebdomadis, post operationem, do-  
 “ mesticis rebus vacare potuit: remansit  
 “ tamen fistulosa in vulneris loco aper-  
 “ tura, quæ quatuor mensibus, parcam  
 “ quantitatem puris fundebat, dein vero  
 “ sanata est:—uteri etiam adest prolap-  
 “ sus; hinc annulo cereo, ad illud viscus  
 “ sustentandum, utitur;—et jamjam de-  
 “ nuo gravida dehiscunt, per pollicis lati-  
 “ tudinem, pubis ossa unde vacillantem  
 “ habet gradum.”

Besides these cases, Mr. Roussel de  
 Vauzesme mentions, that the operation  
 had been likewise performed at Franck-  
 fort in Germany, at Constantinople, at



La Ferté au-Vidame (Firmitati Vicedomini), and Beaunierres en Artois. It has been performed once in Spain, by Mr. Cannivell, with success, as Dr. Duncan relates, after his account of Dr. Leake's book, and I understand it has been since performed twice in Holland.

It appears from this review, that out of eighteen cases, *five women have died, and ten children*; so that, as Mons. Baudeloque observes, "Chaque operation a eu presque sa victime." Admitting that these seven children could not have been otherwise saved, *five women* have been absolutely sacrificed for their preservation; for there does not appear, from the acknowledged dimensions of the pelvis, any necessity for the operation in a single instance. Mons. Cambon's second case, from the short stature of the woman, and the probable distortion of the pelvis, together with the complete success both to the mother and child, seems almost the



only unexceptionable evidence of the efficacy of the operation; or is the single instance where some suspicious circumstance has not arisen to invalidate the truth of the relation, or very much to lessen the merit of the practice.

Since the publication of the first edition of this Essay, this operation has been performed on the Continent several times, by different surgeons and practitioners, with various success; but the general event of the cases already detailed, I trust, must be sufficient to confirm the concluding words of the Essay on Laborious Parturition, “*that no circumstance whatever can render it a warrantable operation;*” and thus preclude all further inquiry or investigation.

I feel great satisfaction, that in the last edition of his “*Outlines of Midwifery,*” Dr. Hamilton, Professor of Midwifery in the University of Edinburgh, so deservedly eminent in his professional cha-



racter and situation, should express himself so exactly in the same manner on this subject ; for, says he, “ We consider ourselves authorized to condemn that operation in every view, and to advise that it be had recourse to *in no case whatever* :” and then, in very obliging terms, refers to my Essay on the subject, and adds, “ To which we think it unnecessary to add any remarks, as his sentiments on that occasion coincide perfectly with our own.” P. 314.



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THE following Conclusion was annexed to this last Essay, when it was first published under the title of an Essay on Laborious Parturition, several years ago; and as this is only a new edition of that work, it has been thought right to republish this part, although Dr. Hamilton, as I was sure he must, upon what was suggested in the following pages, has retracted or corrected his most mistaken opinions and assertions; yet, for obvious reasons, I have chosen to reprint this Conclusion, nearly as it stood in a former edition; and in a Postscript I will not omit to do justice to Dr. Hamilton in all respects.

It had been part of my original plan, in this Essay, to give an historical detail of all the Cæsarean operations which have



been performed of late years in Europe; but to have taken such a review as would have fulfilled this intention with becoming accuracy, or to any useful extent, I soon found required more time and leisure than I could at that season spare from my other engagements; and at all events, must have protracted the publication, and further enlarged this work, already unavoidably extended much beyond the intended size.

But as I have, all through this Essay, holden opinions concerning that operation (expressed in strong language), very different from many foreign authors of high reputation, but particularly differing from the opinions and expressions in the last book on the subject, published in this kingdom, by a professor of midwifery in the first school of medicine in the world.\* I knew it would be required

\* Elements of the Practice of Midwifery, by A. Hamilton. Edinburgh, 1775.



of me, and indeed that it was an instance of respect due to the character and station of that author, not to pass unnoticed those opinions concerning which I have the misfortune to differ *toto cælo* from Professor Hamilton.

I have all through this Essay mentioned the Cæsarean operation as certainly fatal, and the delivery by the crotchet as perfectly safe. I was not however to be informed, that the first had succeeded in one or two recent instances on the Continent, nor that the latter had proved fatal in a very few instances in this country. But I trusted that the general event of the practice, in both cases, so very nearly corresponded with that idea, as fully to justify both the opinion and expressions.

Having considered, with all possible attention, the nature and probable consequences of the Cæsarean operation, and having carefully examined all the ac-



counts published of it in Europe, I own I was most exceedingly astonished at the following observations of Professor Hamilton. Speaking of the necessity for this operation, he says, most truly, “ that  
 “ it is a dreadful and hazardous expedient; but he then adds, “ which, if  
 “ *timely and prudently conducted*, notwithstanding the many instances where-  
 “ in it has failed, may be *performed with great probability of success.*” And again,  
 “ There are on record *above seventy well-attested histories*, wherein it (the Cæsa-  
 “ rean operation) has been *successfully performed*; for of all the cases related  
 “ by authors, it has not *proved fatal to the patient above once in nine or ten instances*;  
 “ which evidently shews the propriety of the practice, and probability of success, both in regard to the mother’s own  
 “ recovery, and for certainly preserving the life of the child.” P. 242 and 251.

With respect to this assertion, con-



cerning the general event of the Cæsa-  
rean operation, I beg leave to say, that  
the Professor must have derived his in-  
formation through channels very different  
from those which have been accessible  
to me, or he is by no means warranted  
in his conclusion; for, except the very  
first, the *most favourable accounts* of this  
operation, instead of confirming the truth  
of Professor Hamilton's assertion, "*that*  
"*it has not proved fatal to the patient above*  
"*once in nine or ten instances,*" precisely  
reverse the fact, declaring, that *only one*  
*woman out of ten has escaped.* Monsieur  
Baudeloque, the latest author on the sub-  
ject, and who seems sufficiently inclined  
to favour it, says this expressly: "*L'ope-*  
"*ration Cæsarienne est si dangereuse pour*  
"*la femme, qu'à peine sur dix, il en échappe*  
"*une à la mort.*"\*

I cannot permit myself to believe that  
Mr. Hamilton could mean to refer to the

\* L'Art des Accouchemens, Vol. II. p. 219.



early accounts of this operation ; for they are altogether so improbable, the facility with which in them it is stated to have been performed, often by the most ignorant and unskilful persons, its general success under circumstances the most hazardous and alarming in the patient, and under treatment the most injudicious on the part of the operator, the subsequent symptoms, so favourable, and different from what have been uniformly observed in every recent and well-attested case, but especially *the frequent repetition of it upon the same subject*, all concur to render it impossible, without credulity in the extreme, to regard such cases as authentic facts, upon the authority of which we are to direct our future practice, or justify ourselves in the performance of so tremendous an operation. But even admitting the truth and weight of these relations, yet, however successful it may have proved in other climates, and former



times, at least we know with certainty, that in this country, and this age, upon whatever it may depend, the operation *has proved fatal in eleven successive cases,\* the whole number in which it has been performed in this kingdom*, and I think, considering where, and by whom the operation was done, Professor Hamilton will hardly venture to say, that at least some of the cases were not “time-ly and prudently conducted.”

The following quotation from the same book, while it excites my astonishment, demands particular notice, because it di-

\* Viz. twice in London, five times at Edinburgh, once at Glasgow, and once at Leicester (accounts of all these cases have been published); but it has been performed once since, in Northamptonshire, by Mr. Clark, then of Wellengborough, afterwards of London, and since dead, assisted by Mr. Mansfield of Thrapston, both able surgeons, and particularly eminent in that part of the kingdom for their skill in midwifery; and once by the late Mr. White, at Manchester, as his son, the present Dr. White, informed me, and with the same fatal effect. In the former edition, nine cases were only known.



rectly contradicts the principal intention of this Essay.

“ In the city of London, during the  
 “ course of the last hundred years, of  
 “ *above fifty women* that have presented  
 “ to the different practitioners, and in  
 “ the different hospitals with narrow pel-  
 “ ves, that is, *from one inch*, to little more  
 “ than two at the widest diameter, *no more*  
 “ *than four or five of this number have*  
 “ *been saved*, and the whole of the chil-  
 “ dren have been destroyed; whereas, had  
 “ the (Cæsarean) operation been per-  
 “ formed, frightful and hazardous as it is,  
 “ *many of these unhappy women*, with  
 “ their children, would have been pre-  
 “ served.”

With respect to this quotation, I beg leave to assure the learned and ingenious author, that concerning the event of the cases of the most deformed pelves in this city (not however “ *of one inch* “ *diameter*,” for I know of none such,



but the smallest of which any account can be procured), he has been altogether misinformed in point of fact; for, from my own experience of five-and-twenty years, as well as upon the most accurate information which, as it was my indispensable duty, I have made my particular business to procure from others, I will venture to assert, that instead of *only four or five women being saved out of fifty, the proportion is at least reversed*, and the number stated in the quotation to be saved, is at the utmost the number lost. One chief intention of this Essay was, to endeavour to diminish at least, if not absolutely supersede, the necessity of the Cæsarean operation, and to substitute the use of the crotchet in its stead. To effect this purpose, I have repeatedly insisted upon the acknowledged fatality of that operation, and the comparative safety of the crotchet, and I have endeavoured to demonstrate upon principle, and con-



firm by experiment, the possibility of the successful application of that instrument, in very many of those deformed pelves where that fatal operation has been heretofore usually resorted to, and is still invariably recommended.\* But if only one woman has been lost out of ten by the Cæsarean operation, and only one out of the same number saved, where the crotchet has been used; if this direct or implied representation of the event of the two methods, given by Professor Hamilton, *be true, mine must be false*; and if

\* See, quoted before, Stein, Levret, Baudeloque, Røederer, Saxtorph, and last of all Professor Plenck (Elem. Art. Obstet. Viennæ, 1781, p. 212), who, speaking of the Cæsarean operation, says expressly, Indicatur

1. “ Quando diameter conjugata in pelvis introitu  
“ 3 pollicibus est angustior, et fœtus vivus, &c.
2. “ Quando conjugata superior pelveos duobus pol-  
“ licibus est minor, etsi fœtus adsit mortuus. In hac  
“ enim pelvis angustia, excerebratio, et extractio fœtus  
“ maturi impossibilis est.”



the practice he recommends *be right, mine must be obviously and ruinously wrong*. But as I am persuaded Professor Hamilton has been betrayed into a hasty opinion, in one instance, for want of the best information, and in the other from actual misinformation, so I trust, that, upon this suggestion, his candour and maturer judgment will lead him at least to correct, if not altogether retract, an opinion demonstrably ill-founded ; an opinion too, not upon a speculative point, or of a trivial nature, but of the first practical importance ; involving in its probable consequences the dearest interests of humanity, and than which nothing may eventually be of greater moment to those persons who, from extreme deformity, unhappily become the objects of its influence.

The confidence which I formerly expressed, that Dr. Hamilton's candour and maturer judgment would, upon the



suggestion made above, induce him at least to correct, if not altogether retract, his hasty opinion on this subject, is now proved to have been well-founded; for in the two last editions of his book, &c. he has entirely abandoned all his erroneous opinions, and exactly adopted the sentiments expressed in this Essay; without, however, acknowledging (which I think in candour he should have done,) that the representation and suggestion in this Conclusion had produced not only that entire dereliction of all his former assertions, but the adoption of the very opinions declared in this Essay, although directly opposite to his former sentiments on this subject. Had Dr. Hamilton so done in his two last editions, the whole of this Conclusion of the Essay on Laborious Parturition should never have been reprinted; but the Doctor's most unaccountably erroneous opinions, and



the observations upon them, should have been buried in eternal oblivion.

I will now just beg leave to recapitulate, and collect into one point of view, the opinions advanced, or the positions attempted to be established in this Essay.

First, I have endeavoured to prove, that a child at full maturity cannot be born alive, by any means of nature, or art, through the natural passage, where the dimensions of the pelvis are not *two inches and three quarters from pubis to sacrum*; therefore, that in all such cases, the head of the child must be lessened, and being lessened, I have endeavoured to demonstrate, that it may be safely extracted by the crotchet, wherever there is a space equal to *one inch and a half from pubis to sacrum*, either immediately between the projecting angle of the sacrum and the symphysis pubis, or on either side the



projection; dimensions much less than what have invariably been supposed to require the Cæsarean operation, even in the latest and best books.

Secondly, I have endeavoured to establish the preference of this method, by a comparative estimate of the two lives, unhappily, but unavoidably, placed in competition. And here I cannot refrain from repeating that conjectural opinion, which some think has been too confidently expressed, that children, during their uterine state of existence, had not arrived at bodily sensation, or, in other words, were absolutely without feeling, and again urging, as incontestible evidence of the truth of the opinion, that children in utero, when dying a natural death, or when the extremest violence was done them, did not, by any perceptible struggle communicated to the mother, express or shew either pain or suffering. I then was, and, on reconsi-



deration, am still confident both of the fact and inference. Dr. Hamilton, however, says, with expressions of approbation otherwise very flattering, for which I feel myself much obliged to him, that “No  
 “ man who reflects on the subject, and  
 “ much less who has practised midwifery,  
 “ will agree with me, that the child in  
 “ utero possesses *no feeling*.” Now I own I am not satisfied with a bare contradiction, because I have often reflected on the subject, and certainly have practised midwifery, and am, nevertheless, of that opinion; and I should have felt myself extremely obliged to Dr. Hamilton, if, instead of a positive assertion, he would have condescended to have answered my argument: for if ill-founded, weak, or frivolous, it would have been easily refuted; but till it is, I shall continue to hold the same opinion, for the reasons given above; and, in confirmation, beg to suggest, that bodily sensation



would be of no service to a child in utero, and nature never performing works of supererrogation either in the moral or physical world, I must believe it has no feeling before birth.

Thirdly, The lamentable necessity of such violent means being established, I have endeavoured to prove the utility of opening the child's head as early as possible, and of delaying the subsequent delivery at least thirty hours, in order to induce putrefaction, and thus facilitate, and render more safe, the future extraction by the crotchet; and by attention to these circumstances, I have asserted, and experience confirms the assertion, that delivery by the crotchet may always be effected with perfect safety to the mother.

In the second part of this last Essay, I have collected together what appeared to me the most curious, or essential parts of several books, published on the division



of the symphysis, in the manner of a review, or historical detail. I have particularly stated the objections to the new operation, and taken what I thought the most satisfactory manner of confirming those objections, by putting my readers in possession of the history and event of all the cases where it has been actually performed, and which together have induced me to give so decided an opinion as to declare that no circumstance whatever can ever render it a warrantable operation.

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### POSTSCRIPT.

SINCE the last Essay went to the press, I have accidentally seen Dr. Denman's third and last part of his Essay on Difficult Labours; in which he considers the manner of opening the child's head, the subsequent extraction, &c. &c.



I cannot but regard it as a considerable misfortune, that, after having agreed in opinion on the leading principles of practice, and taught the same doctrine together for many years, we should again so far differ, as that I cannot prevail on myself to finish the subject, without making some observations on his description of the operation itself, as well as his theoretical opinions concerning it, and his practical directions for performing it.

The circumstances stated and insisted on in the preceding Essay, as particularly to require our attention, towards insuring the safety and success of the operation, whenever we are compelled by lamentable necessity, from extreme deformity of the pelvis, to open the child's head, and deliver by the crotchet, were

First, The early commencement of the operation, or the perforation of the head, with the express design, by leaving



it undelivered at least thirty hours, to induce putrefaction, and thereby to facilitate its future extraction.

Secondly, The constant application of the crotchet on the inside of the head, was strongly recommended during the whole extraction, thereby at least to lessen the danger, if not absolutely to insure the safety of the operation.

Thirdly, In that extreme deformity or contraction of the pelvis, where the upper aperture is not sufficient to admit the basis of the cranium, by any means, or with any force, to enter in the flat form in which it always presents, it was stated, that, by turning it sideways, the volume would be changed, and the difficulty of course lessened, if not altogether removed. Every one of these positions concerning this operation, are so obvious, and indeed so self-evident, that as they none of them require more than common sense and common knowledge, either to



point out the necessity or utility of attending to them in practice, I should not have deemed it necessary to repeat them here, or to make any additional observation on the subject, if Dr. Denman had not totally disregarded one, and denied the utility of the other; nor ought I to pass over unnoticed his belief, that the practice of opening the child's head long before the final delivery, originated with Dr. Kelly.

In my account of Elizabeth Sherwood's case, I stated, what was the fact, that, on consultation, it was agreed that the child's head should be immediately opened, and then left, with "the express intention, in the first instance, to allow the uterus opportunity, by its continued contraction, to force the head as low, and as much within reach of the crotchet, as the nature of the case admitted, and afterwards to induce as great a degree of putrefaction as possible in



the child's body, by which means it would become soft and compressible, and afford the least possible resistance in its future extraction;" and it was from the event of this case, compleatly fulfilling these expectations, that I was induced to recommend the same practice so strenuously in all similar cases, and particularly to inforce in the strongest terms the necessity of opening the head of the child in the very beginning of labour; as not only the safety of the patient, but the practicability of extraction, will, in a very small pelvis, much depend upon our attention to this circumstance. At the time that this practice was first suggested in the abovementioned case, upon the principles, and with the expectation already described, although they were extremely obvious, as far as I believed, the practice was new and doubtful; neither did Dr. Denman, or any other person in consultation then, or indeed till long af-



ter the Essay was printed, and many years after the case had happened, ever give a hint that Dr. Kelly had done the same thing: it was considered as an experiment. I should have been extremely happy to have known that it was not a mere experiment, but that I had had such good authority to justify the practice, or such a good precedent to expect success; and I sincerely hope, since all Dr. Kelly's papers have fallen into such good hands as Mr. Croft's, Dr. Denman's son-in-law, this discovery will not be the only advantage that the public or the profession will derive from Dr. Kelly's abilities and experience. But, from his own account, it appears he only left the head twenty-four hours after it had been opened, "to settle into the pelvis;" and that he did not seem aware of any other advantages, clearly, did not defer the final extraction of the head, upon the same principles, or with the same expectation which induced me



to delay the delivery of my patient, and from the happy effect of such delay to recommend the same practice in all similar cases, of extreme deformity, and extreme difficulty. But in truth, the principle is so obvious, that it is hardly possible not to believe the practice had been followed long before either Dr. Kelly or myself thought of it.

But concerning the second circumstance, or the internal application of the crotchet, which I considered of so much importance, as to induce me to insist upon a constant attention to it, as being essential to the safety of the operation, Dr. Denman thus expresses himself, “ Some  
 “ have thought that it was of great import-  
 “ ance to fix the crotchet on the outside of  
 “ the head, and others have insisted on the  
 “ propriety and superior advantage of fix-  
 “ ing it on the inside; but *I am persuaded*  
 “ *such things are of little consequence*, and  
 “ that, in the course of a difficult opera-



“ tion, it may be found necessary and use-  
 “ ful to fix it in either way.” Now, so far  
 am I from thinking such things of little  
 consequence, that I am persuaded it is of  
 great moment towards defending the soft  
 parts from any injury, in the first ap-  
 plication of the crotchet, as well as  
 towards affording additional security, in  
 case the instrument should slip its hold,  
 in the further progress of the delivery,  
 that it be invariably applied within the  
 head, and that the external application  
 can never be either necessary or useful,  
 but that it must, in all cases, be unques-  
 tionably more dangerous, and less effi-  
 cacious : besides, in a very deformed and  
 contracted pelvis, even the bulk of the in-  
 strument, so applied, will be a consi-  
 derable addition to the volume of the fœ-  
 tal cranium.

The last circumstance which I consider  
 as of much importance towards faci-  
 litating the final extraction of the head,



(although disregarded by Dr. Denman) is, when the basis of the cranium lies flat over the brim of the pelvis, to contrive to change the position, and to turn it sideways; by which the volume of the remaining part of the head, as it relates to the form of the brim, is considerably lessened, and the resistance more readily overcome. This effect must be so obvious and self-evident, that it cannot require either proof or illustration: otherwise Hippocrates affords, on a similar occasion, a very apt comparison, in the difference of the manner in which the olive presents at the mouth of the bottle; where, if lying across, it can never enter, but lengthways, with its extremity first, there is no difficulty: or, to use a more obvious, familiar, and striking comparison, the basis of the cranium, in a very contracted pelvis, lies flat over the brim, as the piece of money over the till in the counter, in which position neither time



nor force can make it enter; and yet the slightest and most obvious art, by turning it edgeways, will remove the difficulty in an instant.

Dr. Denman likewise states, that the principle he wishes to impress on the minds of those who may be embarrassed with difficulties of this kind, is, “ that “ time is equivalent to force;” which, as a general principle, is undoubtedly true, where the pelvis is sufficiently capacious, and the head is in a compressible state, and the powers of nature are in such vigour as to force it against the bones of the pelvis, and which, by their re-action, may change the shape, and lessen the volume; but when applied to this particular case, or where the basis of the cranium cannot enter, which is the only difficulty of any consequence in this operation, nothing can be more false, or more erroneous, and more likely to mislead a young practitioner. Time



can have no possible effect in overcoming this difficulty; sufficient force, properly applied, may: for a small force, used to the end of time, it is well known to mechanics, will not overcome that difficulty which requires greater force: but here, in fact, the slightest and most obvious application of art is superior to both; and here then it certainly is that “*art does mend nature, or change it rather,*” to use an expression of Shakspeare.

Dr. Denman, after describing the various relative dimensions of the pelvis and child's head, by the determination of which the propriety of this or the Cæsa-rean operation is to be decided, concludes with saying, that, “after mature consideration of the whole matter, I am however of opinion, that no rule, of sufficient authority to guide us in any particular case, can be formed from such calculations, and that our conduct is not to be governed wholly by them, but *by the*



“ *reflections of common sense, working in a*  
 “ *reasonable mind*, stored with the know-  
 “ ledge of such calculations, and of many  
 “ other collateral circumstances, which it  
 “ is impossible to enumerate or describe,  
 “ so as to render them applicable and use-  
 “ ful.” I cannot refrain from making one  
 observation on this concluding paragraph,  
 and asking, in the name of common  
 sense, what possible information can be  
 derived from this opinion by any man,  
 but particularly by any young man, for  
 whose use these books are intended, and  
 by whom they are chiefly, if not only  
 read?

The use of practical books, upon any  
 subject, is to supply, from the result of  
 the writer's experience, positive rules of  
 conduct to the young practitioner in cases  
 of which he has had no experience, and  
 of course no practical knowledge, and  
 thus to enable the reader to avail himself  
 of the experience of the writer: and, to



accomplish this useful purpose, it becomes essentially necessary, that the principles upon which the practice is founded should be intelligibly and clearly ascertained, and the best manner of putting them into execution should be distinctly described, so that the operator, unembarrassed by doubt, may without hesitation set about the business, and perform the whole operation in the best possible manner. But if Dr. Denman's experience does not enable him to lay down any positive rule of conduct, either from the calculations, or otherwise, than what will result from the reflections of common sense, working in a reasonable mind: it is in other words directly telling his readers that they may act as they please; for every person flatters himself that he possesses common sense, and every person believes his own mind to be a reasonable mind. But I beg leave again to repeat here, that the rules laid down in



the preceding Essay, founded on the dimensions of the pelvis, and the relative volume of the foetal head at full maturity, or on those calculations which he disregards, are yet, in my mind, fixed upon as firm and irrefragable principles of science, as any subject in the practice of midwifery.

It was my particular intention, by endeavouring to ascertain by mensuration the dimensions of the pelvis, and the average volume of a foetal head at full time, with their relation to each other, to banish all vague conjecture from the subject, or as much as the nature of the case rendered it possible; for it is obvious that the natural passage, or the artificial extraction of the child's head through the cavity of the pelvis, was a mechanical operation merely, whether effected by the force of the natural pains only, or in the different degrees of difficulty, by the dif-



ferent modifications of the mechanical powers already described.

Although it may not be possible, during life, to ascertain, with geometrical precision, the dimensions of the pelvis, it is certainly to be done with sufficient exactness to direct our conduct in all possible cases; and these calculations afford, most undoubtedly, the only accurate datum upon which our judgment ought or can be founded. But Dr. Denman's conclusion just quoted, instead of confirming this opinion, or removing obstacles, and clearing our way, and advancing our knowledge on this obscure subject, only tends to render it more obscure to make it more intricate than it really is, and to involve it in greater mystery.

I know of no such collateral circumstances which (the Doctor says) it is impossible to enumerate or describe, so as to render them applicable or useful ;”



nor can I comprehend, if they did exist at all, why they could not be described and applied to use: at all events, by the assertion, our knowledge of the subject, instead of being advanced or improved, is both narrowed, and rendered more abstruse, whether applied to crotchet cases, or the Cæsarean operation. I must, however, beg leave (for I feel myself called upon, as well from personal as professional motives) explicitly to repeat, that it is the relative proportion, and the relative proportion only, which the dimensions of the pelvis bear to the volume of the child's head (especially to the basis of the cranium), which is to determine the nature of every case, either admitting the use of the crotchet, or requiring the Cæsarean operation; and which therefore, I think, "ought alone to govern our conduct in practice;" *for we can have no other rule.*

As the prevention of the Cæsarean



operation is one great object of this publication, I cannot close this Postscript without expressing my sincere regret, at what Dr. Denman has advanced on this subject, in the Third Part of his Essay on Difficult Labours. He speaks of it much more favourably, or with less abhorrence, than I think it deserves, and certainly in a manner not warranted by the result of the cases which have happened in this age, and in this country; for it has been unsuccessfully done eleven times; and although performed by the ablest surgeons, assisted by the most skilful physicians, under all the various circumstances of town and country, hospital and private practice, as well as at every different stage of child-bearing life, and both at the commencement, and at every subsequent period of the labour, yet has the event uniformly proved fatal; in some cases immediately, in others, at the distance of some hours, and in a few



after some days, yet ultimately the event has been the same.

This being the known and acknowledged result of this tremendous operation, I cannot reconcile to my common sense, or to my reason and my feelings, the following different expressions and opinions concerning it, which Dr. Denman has inserted in various parts of that Essay; for inasmuch as they are evidently intended to lessen the horror of the operation, they will in some degree even encourage or tempt bold, enterprizing, and adventurous young men to undertake, what my conviction urges me to declare, never can be warrantable.

The first section, on the Cæsarean operation, Dr. Denman concludes by saying, “ We have had well-authenticated accounts of nine cases in which  
“ the operation was performed, under  
“ the direction of, and by men of unex-  
“ ceptionable abilities; and these may be



“esteemed sufficient to enable us to  
 “form a judgment of the advantages to be  
 “derived from the operation,” &c. Now  
 what possible advantages can be said to  
 be derived or expected from an operation  
 which has proved fatal in every instance?  
 Again, he states, “that though a woman,  
 “recovering after the Cæsarean opera-  
 “tion, might be rather considered as an  
 “escape, than as a recovery to be ex-  
 “pected;” yet adds, “as such an escape  
 “may happen in any case in which the  
 “operation might be performed, we may  
 “esteem every case which can come be-  
 “fore us, as the individual case in which  
 “a happy event is to be expected.”

I cannot but express my surprise, that  
 Dr. Denman should expect the possibility  
 of “a happy event,” after eleven succes-  
 sive fatal cases, but through the mira-  
 culous interposition of Providence! The  
 interdiction, therefore, or prohibition of  
 any operation, I think ought to be pro-



nounced, where an escape can only be expected by such means; more especially as there is much doubt, whether any necessity can occur to warrant so great a risk; or, in other words, I am inclined to believe, that the necessary organs cannot be so constructed, as to permit conception to take place, and gestation to proceed to its completion (while the other functions are going on), where the pelvis is so deformed in shape, and so contracted in capacity, as not to allow of a child's being extracted through the natural passage by the crotchets, in a putrid and reduced state. I am therefore not disposed to admit of the existence of that necessity which will, in the words of my old friend, justify this operation "by every principle of religion, "and the laws of civil society, by as decisive and satisfactory evidence as any "other operation which we never hesitate "to propose, or to perform." I sincerely



hope, that his wellknown humanity never will be put to the severe trial, and that he never will have an opportunity of justifying his conduct in a twelfth case of Cæsarean operation, by solemnly resorting to the principles of religion, and the laws of civil society! Indeed, deplorably trifling must have been our advances in the science of midwifery, compared with other branches of the practice of physic or surgery, if, at the end of the eighteenth century, we are not able to banish from practice the only fatal operation which has continued to disgrace our profession for three hundred years! But I trust with confidence, that the mortal event of eleven recent cases will operate *in terrorem*, both upon his mind, and the whole profession, and that from henceforth it will be regarded in the words of the late Sir Fielding Ould, as “a detestable, barbarous, illegal piece of inhumanity.” To induce premature la-



bour, as has been recommended in other cases, or even abortion, is, in my opinion, a better and more warrantable practice.

Before I finish, I beg leave to address a few concluding words, to recommend and urge the students in midwifery, to commence their studies as early as possible, and to devote more time, and more attention to this subject than is usually done. A very, and too general method is, for the students to defer their attendance on midwifery lectures, till they are ready to return into the country, and then they hurry through a single course, and often, I am afraid, are satisfied with the slight and loose account of the theory and practice of midwifery interspersed by the professors of anatomy, in their course of anatomical lectures; not reflecting, that midwifery consists of the science or knowledge of the principles, and the art, or the re-



duction of that science into practice; and that however easily or readily the principles or theory may be known, the executive or practical part can only be acquired by repeated performance of manual, and especially of instrumental delivery. The simplest operation cannot be easily and well done the first time; and nothing but a frequent repetition can insure that address and dexterity, which are essentially necessary in the nicer operations of our art. The machines used in lectures were invented with great ingenuity, to explain the difficulties arising from any disproportion between the cavity of the mother's pelvis, and the volume of the child's head; or the deformity of the first, or the wrong position of the last, and to demonstrate the best application of mechanical means of relief in all such cases: for, as before observed, these machines, *quoad hoc*, are nature—to all useful intents and purposes,



as much nature as living women; and therefore, by performing the operations on them, the student has the opportunity of making experiments, and acquiring that expertness of using instruments in difficult cases, which can be acquired by no other means, but which, by early habit, is easily, and ought infallibly to be attained. Indeed I cannot express myself with too much earnestness in recommending an earlier and closer attention to this branch of the profession; its importance has been demonstrated above, both to the public and to the practitioner. The principles of every science are more easily learnt in youth; the mind seems more susceptible of every impression: but especially, where to be perfect requires any operation of the hand, as well as the exertion of the mind, it is universally acknowledged that expertness, or dexterity is only to be acquired at that age; as musicians, painters, engravers, and all



artists, well know. The particular facility with which general knowledge, or wisdom is to be attained in youth, is described by the highest sacred authority, in the following beautiful personification : “ He that seeketh her early  
 “ shall have little travail, *for he shall*  
 “ *find her sitting at his door.* She is easily  
 “ seen of them that love her, and found  
 “ of such as seek her. For she goeth  
 “ about, seeking such as are worthy of  
 “ her ; sheweth herself favourably to  
 “ them in the ways, and *meeteth them*  
 “ *in every thought.*”

After shewing the facility of thus gaining knowledge in early life, I cannot omit to remind my young readers of the value of the acquisition, by the great rewards accompanying the possession, as emphatically described by the same high authority. “ *All good things came to me together with her,*” says Solomon, “ *and*  
 “ *innumerable riches in her hands.* For



*“ her sake, I shall have estimation among  
 “ the multitude, and honour with my elders,  
 “ though I be young.”*

I cannot conclude without observing, that the opinions contained, and the practice recommended in the preceding Essays, have been constantly and publicly taught by me for twenty years; and I have the satisfaction of knowing that Dr. Clarke, my present colleague in lectures (who, from the acuteness he possesses, the uncommon pains he has taken, and the experience he has already had, is well qualified to judge), perfectly agrees with me in these opinions, and I am persuaded therefore, will continue to teach the same doctrine, and recommend the same practice, so long as our school remains, or he continues to read lectures on midwifery.



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